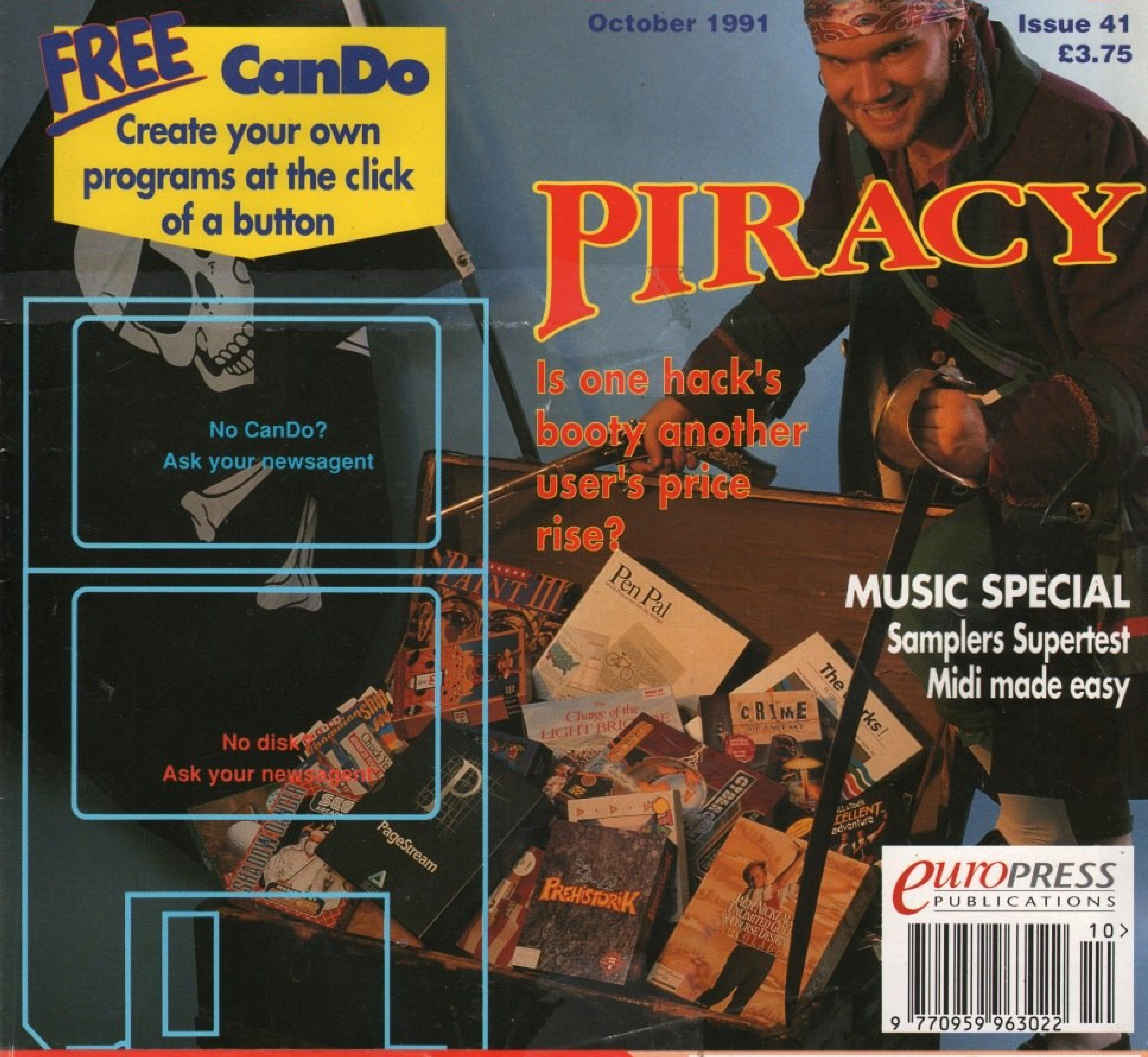
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AMIGA COMPUTING

October 1991

Issue 41

£3.75



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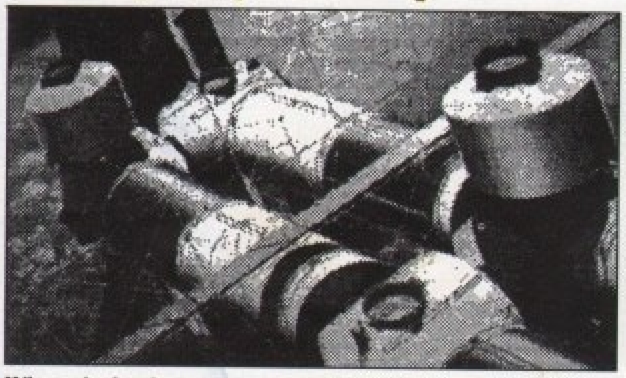
SaxonScript

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Now Available!

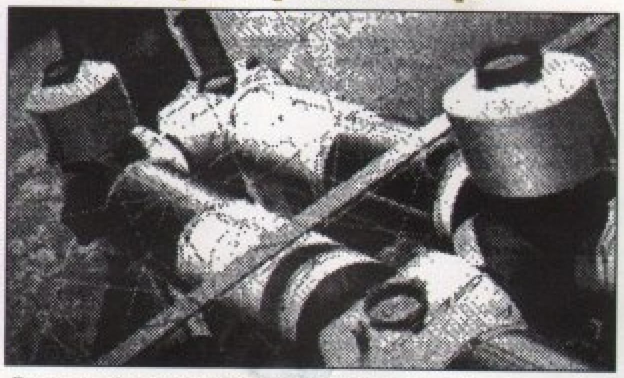
Introducing **SaxonScript Professional,**™ the most powerful and sophisticated *PostScript Interpreter* available on the commercial market. It's like turning your *dot matrix, ink-jet* or *laser printer* into a full fledged PostScript printer, with the added flexibility of being able to edit and manipulate individual files! **On printers equipped with resolutions of 300 dpi or more, the output quality of SaxonScript Professional actually *exceeds* that of 300 dpi Adobe PostScript laser printers!** Halftoned areas in particular, are consistently sharper, more detailed and feature better transitions between various levels of grey than comparable images produced by using PostScript.

PostScript Output at 300 dpi



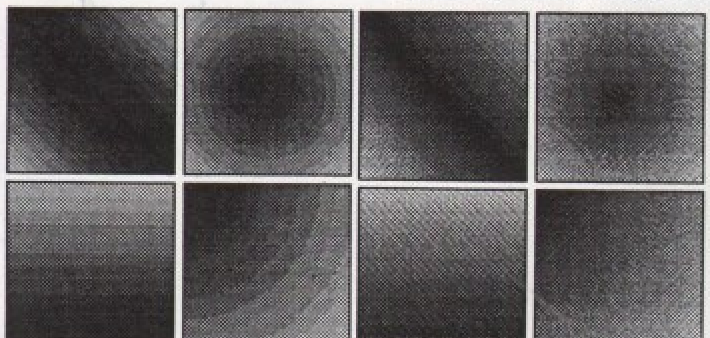
When pixel values cannot be reproduced exactly, **PostScript** renders the affected pixels in the closest *darker shade* available at the given screen density. *Subtle details are inevitably lost as a result.* PostScript halftones also tend to have a grainy appearance because of PostScript's inability to produce irregularly shaped halftone cells.

SaxonScript Output at 300 dpi



Because SaxonScript's algorithms intelligently switch between *halftoning* and *dithering,* any pixel value can be accurately reproduced. Notice the greater detail found in this image. *SaxonScript's* images are also sharper and crisper than comparable PostScript images because of the program's unique ability to create **irregular halftone cells.**

PostScript's approach to halftoning limits the maximum number of possible greys to a function of both resolution and screen frequency. At lower resolutions, this gives rise to the creation of very visible bands of grey which degrade the overall quality of printed images.



Our unique approach to halftoning does not limit the number of grey levels which can be printed. Consequently, no banding is visible in areas containing colour gradients. This permits smoother transitions and enhances the overall quality of printed images.

FONT CONVERSION UTILITIES

SaxonScript Professional supports *all PostScript downloadable fonts,* including **Compugraphic** and **Adobe Type 1** fonts. Custom utilities further allow you to convert PostScript fonts in ***Amiga Bitmap, Saxon Publisher*** or ***Adobe Type 1*** formats for use in a variety of different applications!

IMAGE CONVERSION UTILITIES

Convert your PostScript files into **IFF, EPS,** or **DR2D** formats for manipulation in various *paint programs* and *desktop publishers!* Or attach IFF headers to your EPS files, effectively allowing you to *view EPS files on screen!*

PRINTING UTILITIES

Preview linotronic files for potentially costly errors *before* sending your output to a service bureau. Print PostScript *directly* to the screen display to obtain accurate colour proofs on screen. Using the included **moire testing program,** you can also test screen angles and densities for visible artifacts *before* printing! After verification, ***SaxonScript's*** proprietary *compression algorithms* can be used to ***compress*** your PostScript files into a more compact PostScript format for faster, i.e., much less expensive output.

SaxonScript Professional is available at your nearest dealer for only £99.95 inc. VAT! A *free copy of SaxonScript Professional* is also included with every purchase of *Saxon Publisher V1.2.*

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UB6 0AA FAX: 081-566 6678

FEATURES

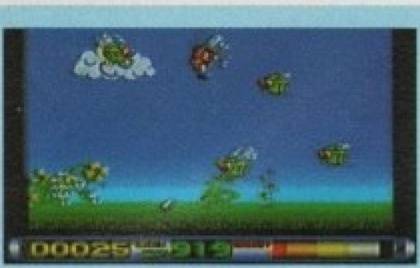
- **True virtual memory** for compatibility with low memory Amigas, or under conditions of heavy multitasking.
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- Support for **all** *Postscript downloadable fonts* including **Compugraphic, Adobe Type 1** and **Adobe Type 3** fonts obtained from any number of different sources. *Any* PostScript font on an Amiga disk can be manipulated within ***SaxonScript Professional.***
- Conversion of PostScript fonts into *Saxon Publisher, Amiga Bitmap,* or *Adobe Type 1 formats.*
- A full colour **PostScript screen preview** which is *100% accurate* to the limitations of the screen display.
- The ability to convert PostScript files into a **compressed PostScript format** for faster output at service bureaus.
- The ability to test screen angles and densities for **moire patterns** before printing.
- The ability to integrate individual separations into a single full-colour document for **accurate colour proofs** on colour printers.
- The conversion of PostScript files into **IFF, EPS, EPSF,** or **DR2D** formats for editing and manipulations in various applications.
- Automatic sensing of **68881,** or **68882.**
- Implementation of **all** standard PostScript operators.
- An open architecture to allow customisation by PD programmers.
- *Delayed printing and print to disk* options.

MIN REQ: 1 meg, 2 drives.

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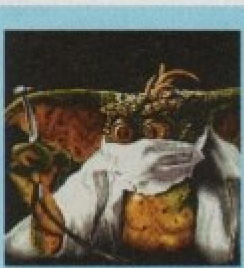
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CHAIRMAN	Derek Meakin
FINANCIAL CONTROLLER	Ian Bloomfield
PUBLISHER	Richard Williams

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***Amiga Computing* welcomes articles for publication. Material should be sent on an Amiga readable disk. The return of material cannot be guaranteed. Contributions can only be accepted by Europress Publications on an all rights basis.**

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For over three years *Amiga Computing* has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, *Amiga Computing*, promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

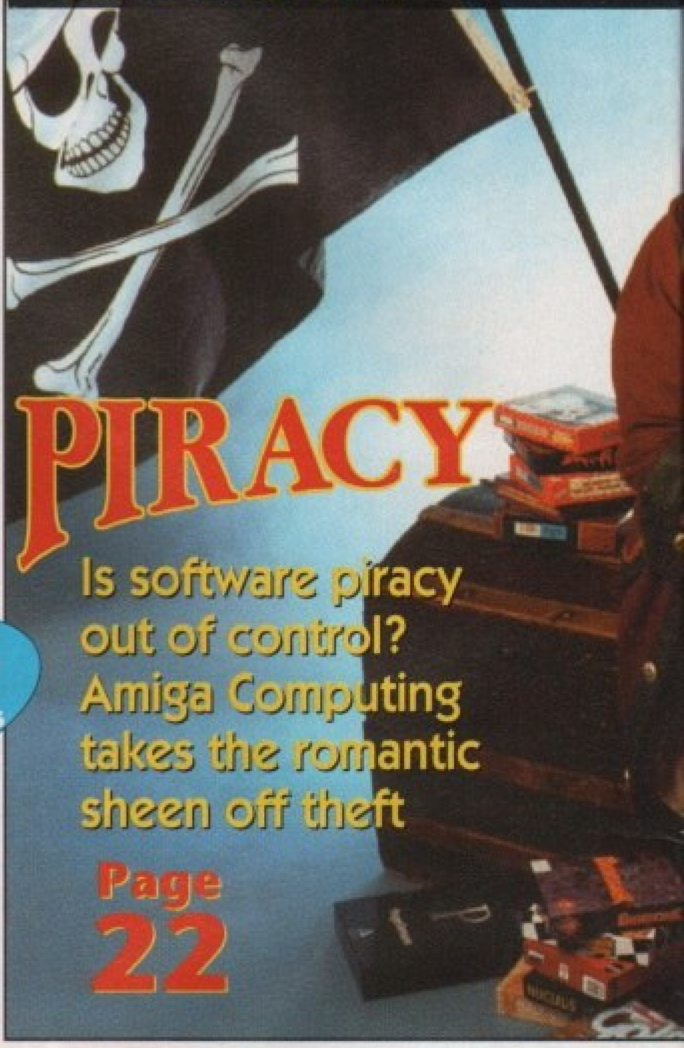
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6 GREAT
Subscription offers for new readers

turn to Page 102

COVER STORY



PIRACY

Is software piracy out of control? Amiga Computing takes the romantic sheen off theft

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THE COVERDISKS

The best disks in the business....



Disk 1

A chance to try power steering your Amiga with £125 worth of Cando – the ultimate in user-friendly programming tools.

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Llamatron
100 levels of arcade madness in the Jeff Minter shoot-'em-up, LLAMATRON! See if you can survive swarms of aliens, hordes of beasties, and rapidly increasing addictiveness!

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amiga almanac



SPORTS
The ultimate in arm-chair sportsmanship. Waggle your Joystick to Olympic standards! 120

CONTENTS



REGULARS

Grand Grab



The *Amiga Computing* **GRAND GRAB** goes from strength to strength with more **massive** giveaways!

Have you got last month's *Amiga Computing* handy? Check the winning numbers published this month against your number and see if you have won a fantastic PANDAAL scanner!

You can also find out how the number on this month's cover could win you a Golden Image scanner, or one of over eighty top games. 118



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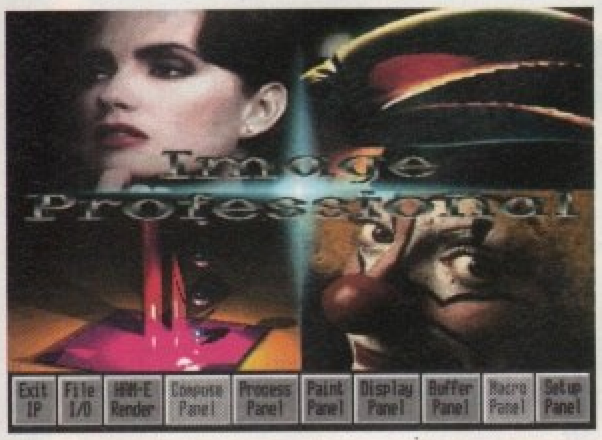
SPECIALS

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H A M - E

Let HAM-E take you away from the Amiga's limited 12 bit graphics and into the professional world of 24 bit images. HAM-E is the most affordable and yet the most compatible 24 bit graphics enhancement for your Amiga. All the software you need is free, even the upgrades! But how can we convince you to buy it? Well, see for yourself...



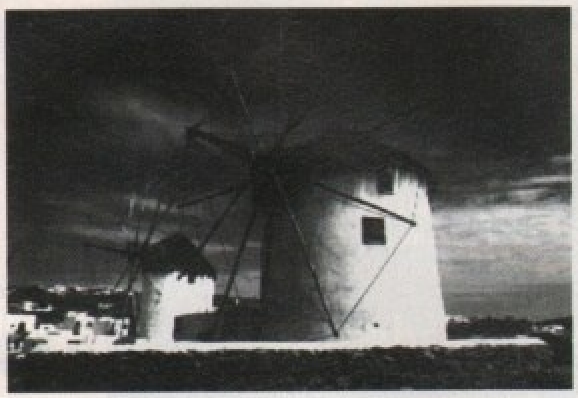
Hardware Features:

True 24 bit RGB colour guns give you a complete palette of 16.8 million colours, with 8, 18 and 24 bit display modes.
256/512 colour register modes.
Displays upto 262,000 colours at a resolution of upto 384 x 560. (Standard Version)
Hi-Res version features custom maths processor for real time anti-aliasing and resolutions of upto 768x560 pixels.
Full Genlock, PAL Encoder and Modulator support.
HAM-E doesn't take up any processing time.
Treat HAM-E pictures and animations as standard IFF files.
Can display both HAM-E and standard Amiga screen modes on your monitor simultaniously.
Display HAM-E images in DPaint, AmigaVision, Scala, AMOS, and of course Cando etc.



Image Professional Features:

Very powerful 24 bit processing features. eg. RGB correction, melt, antique, caricature, droop, explode, radial wave, motion blurr, zoom, etc.
Everything computed with 24 bit accuracy.
Multiple buffer and undo functions.
Display modes include 256 colour, average and luma (b/w), 18 bit and 24 bit colour.
Special mode to import directly from Digiview.
New 24 bit paint and brush functions. Allows full 24 bit painting and brush manipulations, all at full 24 bit resolution, upto 32,000 pixels square.



"Paint" Features:

Draw, line, circle, box, etc, and complete fill modes, with full light source shading.
Extensive brush and fill control menus.
Fast brush distortion in any shape.
3D perspective and AREXX control make complicated animations possible.
10 colour cycle/glow ranges.
Anti-alias, wash, bright, cycle, etc... draw modes.
Both IP and Paint packages fully support standard Amiga fonts including colour fonts.
Full 24 bit palette control screen, allowing large number of multi coloured ranges.

Third Party Support:

Spectracolor from OXXI - Full HAM-E support. 262,000 colour animated brushes!
Art Department from ASDG inc. Full HAM-E load and save support.
Vista Pro from Virtual Reality Laboratories - Now includes 24 bit HAM-E rendering.
3D-Professional from Progressive Peripherals inc - Now renders direct to HAM-E.
HAM-E WorkShop from Holosoft inc. - Dedicated 256 Register Paint Package.

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Standard Version ONLY £299.00
Hi-Res Version ONLY £399.00

Both Prices include Vat , Power Supply, all cables Image Professional and Paint packages

Hard Drives and Accelerators will fit A2000, Checkmate A1500's, HiQ Tower System, Hippo and Checkmate Plus (A500 upgrades)



Fujitsu High Speed SCSI Hard Drives (avge access 19ms)

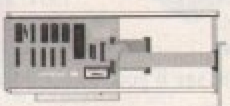
45MB £239.00 - 105MB £399.00 - 184MB £535.00

Quantum-Pro SCSI Hard Drive (average access 8/9ms)

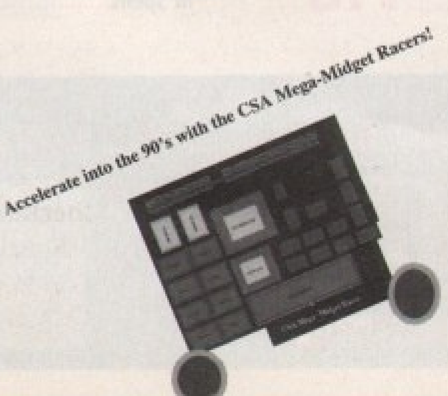
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ICD ADSCSI 2000, very high transfer rates.	£139.00
GVP Series II SCSI controller with sockets for upto 8Meg Ram, SIMM's (non populated).	£199.00
SIMM's per 2 Meg	£ 90.00



Ring for details on the Following:-
GVP 68030 Accelerators
Fusion Forty 68040 Accelerator
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The Hyper Drive System from Checkmate Digital

This is the ultimate upgrade for Amiga A500 owners, using high quality components manufactured and sourced by Checkmate including the following:-

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Prices Start from £699.00 for 45mb ICD complete system.
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This Advert Was Laid Out On A CDL Upgraded Amiga A500 Without Accelerator in only 4 hours from Scratch. Then Output in PostScript to Monotype at 2400 dpi on Film. This Proves That The Amiga Range Is As Powerful As Any So Called DTP Machine. Software used Pro-Page 2.0

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Object Oriented Program Construction for Regular Ordinary People.

While you weren't watching, we turned you and the rest of the world's Amiga users into programmers.

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We get rave letters every day.

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CanDo 1.5 is distributed in the UK by Checkmate Digital Ltd Tel 071-923 0658 INOVAtronics, Inc. Dallas, Texas.

Real 3D object design and animation software


Image kindly supplied by Alternative Image

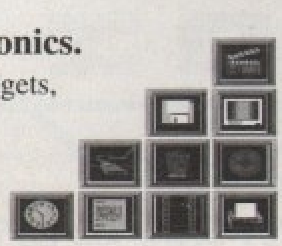
Simple yet powerful user interface.
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Turbo Professional Version includes:-
Full 24 bit support. Images can be converted and displayed on HAM-E to show this vast improvement in colour quality. Even faster rendering speeds.
Incredible bump mapping effect.

Spectracolor from OXXI

This Exciting HAM animation package will be arriving in this country in the next fews days with a major upgrade.
It now fully supports the HAM-E 24 bit graphics system in all modes. With full HAM-E mode support. (262,000 colours on screen at once). This incredible package will give you 262,000 colour animated brushes and full screen animation support, enabling all of your images to be edited in real time.
Expect to see this incredible package being used by everyone who is serious about Amiga graphics. **Only £ 69.00**

Interface Design Kit From INOVAtronics.

Four disks of superbly drawn Multi-Media Gadgets, Borders and background Clip art for programs such as Amigavision, Scala, CanDo, and any Multi-Media, Presentation and programming langauge.



When you buy from Checkmate you can be sure that you will get expert advise, with keen prices due to our dedication to one computer range only. We support the Amiga range of computers completely in everything we do.

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Spectracolor HAM-E version (OXXI)	£ 69.00
Videoscape 3D with Pro-Motion (OXXI)	£ p.o.a
Art Department (HAM-E support)	£199.00
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Real 3D Pro Turbo version (24 bit)	£399.00
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VISA

WHAT'S new

Commodore takes Amiga RISC

AMIGA COMPUTING exclusive

New Amigas are on their way. Commodore opens up to John Butters

THE FIRST of the next generation of Amigas using some of the most up-to-date technology available will go on sale in less than a year, *Amiga Computing* can exclusively reveal.

Commodore have admitted that they have two options under test at their secret Pennsylvania development plant and an insider says that at least one of these will be marketed. They centre on two powerful chips which lift the computer's speed considerably, and there will also be improvements to the sound and colour.

The first of the new Amigas will be an upgraded A3000 but is is unclear whether it will be a replacement or another machine. The A3000's 68030 processor will be exchanged for the faster 68040, making it up to five times faster than the existing model and 20 times quicker than a standard A500.

The new version of the top-end Amiga will be on sale by next August and possibly earlier. Owners of the current A3000 will be able to buy an upgrade chip which will plug into the separate Central Processing Unit (CPU) slot for enhanced processors. Other machines in the Amiga family could see the processor later, say Commodore.

The manufacturer has also developed an Amiga based on the Reduced Instruction Set Chip (RISC). RISC is designed to have few instruction commands, thus enabling it to pass through code quickly and increase the speed of the computer. The chip was designed by Acorn Computers and used in their Archimedes, which has become popular in education.

Developers have been slow to accept RISC, although an independent expert told us that major players in the industry are moving to the chip, including Apple who are set to build a Macintosh running from it.

If developed as a product, RISC will be used in all Amigas, says our source, and could be only a year away. But the firm is unwilling to discuss its exact specifications. "I can't actually make a comment on the RISC-based system at the moment, said a spokesperson.

He added that the improved sound will probably be 16-bit, and a chip set due later this year will give a larger palette and 256 colours onscreen at once, effectively giving a VGA standard display. The RISC and 68040 chips could lead to incompatibility problems, although RISC would give the biggest headache to developers.

But Commodore have guaranteed compatibility with existing software. "It will run the Amiga operating system – our policy has always been to maintain and develop Amiga technology, said Commodore.

One way around the RISC problem would be to include a 68000 processor inside the machine. Another would be to have "very sexy programming" across the bus that would allow the RISC processor to access the Zorro data bus.



The A3000 will be the first Amiga to be fitted with a 68040 chip. The processor will also go on sale as an upgrade, plugging into the CPU slot

Cheap speed arrives

A STAFFORDSHIRE distributor is set to release a cheap card in a new line of accelerators.

The entry-level VXL-30 will fit into all types of Amiga and could go on sale for less than £300. Based on the 68030 enhanced chip set, the MicroBotics accelerator will run at 25MHz.

It will not have extra memory but accepts an optional 32-bit ram board, VXL RAM-32, populated with either two or eight megabytes of Fast Page Mode ram designed to enable the processor to operate in its high speed burst mode.

A software switch will return control to the Amiga's 68000 chip, enabling all software to be compatible with the upgraded computer. Available from ZCL (0543 414817), VXL-30 will probably cost £299.99. The price of the ram boards has still to be fixed.

Workbench upgrade by Xmas

THE REDESIGNED Amiga operating system is being burned into rom and will be on sale by the end of the year say Commodore. An official announcement of the release is expected soon.

Already supplied on disk to owners of A3000s, Workbench 2 has a new appearance, and grey, black, blue and white have been substituted for the original colours.

Other features in version 2 are improved error handling that finds software failures before they manage serious damage, and quicker floppy disk operations as a result of the new Fast File System.

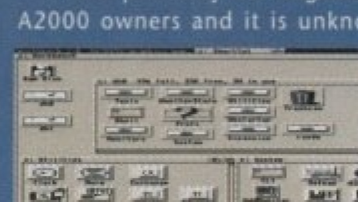
ARexx, CompuGraphic fonts and utility software come with Workbench 2 and the Enhanced Chip Set will also be available and fitted by an approved service centre. Users not requiring either the Super Agnes or Super Denise chip will pay less for the upgrade, it is claimed.

Despite the operating system being completely rewritten, incompatibility will not be a serious problem, although industry experts say very old commercial programs and some public domain software could cause trouble if they were not written to Commodore guidelines.

It will primarily be targeted at A2000 owners and it is unknown whether A500 owners will see an upgrade. Stateside, Commodore are selling one megabyte A500s fitted with the latest operating system and the Enhanced Chip Set in a computer known as the A500 Professional. If the A500P were to become a UK product then an upgrade would be unlikely.

Commodore's Andrew Ball told *Amiga Computing* that upgrades will filter through to the UK by the end of the year but probably not for the A500, although other staff at the firm's Maidenhead office said it would be "technically possible" to supply chips for that model.

Roms will be supplied with a comprehensive manual, and a price tag of between £75 and £100 seems likely. Disk-based copies are not expected to cost more than £25. Commodore were unwilling to confirm prices.



Amiga owners will soon be able to upgrade

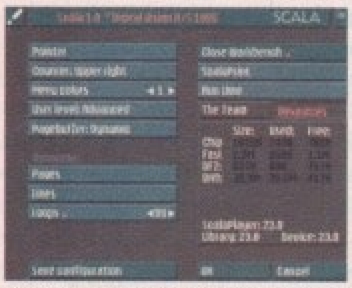
WHAT'S new

Slicker Scala from Silica

TOP-SELLING Amiga presentation package Scala has had its features expanded for video titling, multimedia and presentation production.

New features found in version 1.1 of Norway-based Digital Vision's program include ARexx support, real time anti-aliasing of text, brushes and colour fonts and continuous credit scolling transition.

Anim real-time buffering will load the next animation as the previous one is being run, and other features include colourfont support,



Scala has undergone various improvements

full support for outline fonts under Workbench 2.1 and automatic remapping of brushes and colourfonts.

There is also superimpose transition, a function to show layout boxes, much faster loading and automatic popularity buffering which stores many pictures in memory for use with interactive applications. It has 17 high quality fonts, 59 backdrops, 52 screen wipes and 50 text line wipes.

"Since its launch, Scala has become Silica's best selling Amiga presentation package – outselling every other presentation package for the Amiga," said Silica's Andy Leaning.

"The new features give the package an improved running speed and make presentations slicker and more professional."

The package is compatible with all Amigas and costs £264.38. Users of the earlier version can upgrade for free by returning their original disks to Silica Systems (081-309 1111) at 1 to 4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX.

Dealers to give multimedia advice

AMIGA buyers will be able to get more advice from dealers about the computer's multimedia talents, thanks to a new nationwide network of multimedia centres being set up by Commodore.

All will be in place within three years and the manufacturer intends to open at least one every three months.

Dealers will be invited to undergo Commodore training which will include courses in sound and graphics, presentation, design, genlocking and animation. Another part of the training will be with distance learning packages.

Said Commodore's national sales director Terry Cooke: "Commodore is the only supplier to operate in all market sectors of this fast growing market. Our figures project market growth of 72 per cent per annum over the next four years.

"Our aim is to marry our expertise with Amiga technology, which exists with certain dealers right now, with our own commercial marketing experience and the expertise of the individual components of the multimedia mix.

"Multimedia is an added-value market that many dealers are keen to enter – we have made that transition easier. We realise it is not about a single technology but about applying solutions to needs and that's what the training achieves."



Commodore's technical director Barry Thurston announced that the firm will be "working with all key dealers to get multimedia solutions to the marketplace"

Pilots get learning aid

AMIGA owners will soon be flying high with two versions of a realistic flight simulator featuring three types of light aircraft just announced by Bristol-based R C Simulations (0272 550900).

Under development by Digital Aviation, Light Aircraft Simulator will offer everything from basic training to aerobatics. Airfields throughout southern England will be represented in faithful detail.

Flights in a single-propellered Cessna 150 or two models of the Chipmunk, a favourite Royal Air Force training plane, can be taken to 100 destinations within the UK. Software will be supplied with a comprehensive manual to include navigation maps.

R C Simulations chairman Bob Sidwick says the programs will give an ideal environment for practising flight instrument appreciation and general navigation techniques including visual and radio navigation approach procedures.

The simulator was designed to aid in the training of private pilots and should be on sale by the end of December.

The visual only version will cost £49.95 and the instrument flying version £90.

Typesetting system enters UK

A PROFESSIONAL Amiga typesetting system has been officially released in the UK by Industrial Might and Logic (0273 621393) and at the same time has received an update.

AmigaTEX enables interprocess communication with other programs using ARexx and includes equations and tables, as well as a document size determined only by the size of the hard disk. New features found in version 3.1a include full PostScript and graphics support onscreen and to supported printers, and AmigaDOS 2 compatibility.

PostScript fonts from various sources, including nearly all structured drawing packages, can be scaled, slanted and stretched to any degree and graphics can be integrated into AmigaTEX documents and appear onscreen exactly as they will be printed.

It sells for £140, and a free demonstration disk is available by writing to the firm at 58 Cobden Road, Brighton BN2 2TJ.

Disks for free

AMIGA people

A CLEVELAND man who has formed an Amiga public domain library, which he says will encourage users to decide how they want it to serve them, is giving disks away free.

Paul Failes, 23, started full time work on Neural Images PD (0429 263508) after owning an Amiga for more than a year and recently being made redundant from an accounts job at Rolls Royce.

Paul says he wanted to run a library but kept his Amiga as a hobby until he lost his job, when he had the time needed to start the business. As part of an opening promotional campaign Neural Images will supply any disk from a catalogue of 150 free until the end of September.

By including a questionnaire with the catalogue he hopes to be able to carry out market research into what his customers want. All models of the Amiga will be catered for and as part of the library's policy of being user friendly, programs requiring more than half a megabyte of memory will be published in a different section of their catalogue.



Paul waiting for a flood of disk orders

Orders will be dispatched the same day and before each disk is sent it will be checked to ensure it works and is virus free. After September, each disk will cost 99 pence plus postage and packing.

Although many small Amiga libraries have been forced to close in the last year, Paul thinks there is enough space for Neural Images to move in. "By offering a good service at low prices there is room in the market for the library. It will be speedy but not at the expense of quality and I want Amiga people to tell me what they want," he said.

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Dealers win returns battle

DEALERS are praising Commodore bosses for axing their new cost-saving returns policy within days of it taking effect. The decision was taken when dealers threatened to cripple the supply of Amigas by dropping it in favour of rival machines.

From July 1, dead on arrival (DOA) products had to be returned to Commodore's National Repair Centre at the dealer's expense and they were told they would have to wait for up to 14 days for replacement machines.

Furious retailers claimed that when the new policy was introduced the Amiga failure rate leaped much higher than the normal eight per cent and it took longer than two weeks for new computers to be received.

Despite a half per cent increase in their margins under the policy, dealers claimed they were losing money and could not afford to continue stocking the firm's products.

Talks between Commodore and dealer body NASCR (The National Association of Specialist Computer Retailers) resulted in the policy being reversed and distributors taking back the responsibility of handling DOA micros.

"The returns policy will practically revert back to the way it used to be – the only minor change is if a dealer finds shortages in the box," said NASCR chairman Clive Bishop. "Where it was the responsibility of the distributor to replace those shortages it will now be Commodore's direct.

"Commodore made a statement at a distributors' meeting prior to its announcement that if there was major adverse reaction from the trade they would be quick to react and back down.

"On that basis that is correct, they've done that and I commend them. The mere fact that they overreacted in the first place is water under the bridge now. There will be a major sigh of relief across the UK."

Commodore say distributors must now be much more responsible and operate to DOA guidelines to avoid abuse of the system. A spokesman said that for bona fide dealers the policy remains the same as it used to be.

Meanwhile, an independent survey has found the Amiga to be the country's most stocked leisure computer, with the A500 available at more than eight out of 10 outlets.

In second and third place in the *Computer Trade Weekly* survey were Sega's Megadrive and MasterSystem, both sold by more than 70 per cent of dealers. In fourth place was the C64 at 70 per cent, and in fifth was the Atari ST, on sale at 65 per cent of outlets.

Top 10 stocked machines

Position	Computer	Percentage of dealers
1	A500	83
2	Sega Megadrive	73
3	Sega Master System	72
4	Commodore 64	70
5	Atari 520ST	65
6/7	Nintendo Gameboy/ Atari Lynx	53
8	Nintendo Entertainment System	51
9	Atari 2600/2800 VCS	36
10	Amstrad CPC/Plus	29

Source: Computer Trade Weekly

RAF take off with ProFlight

VISITORS to this year's Royal Tournament had the opportunity to take to the sky in one of the RAF's most advanced front line fighter planes thanks to an A3000 and a leading flight simulation program.

An organiser of the promotional show at Earls Court stationed at an RAF Henlow suggested that HiSoft's ProFlight program could be demonstrated at this year's two and a half week event.

A special version was programmed which enabled the pilots to follow missiles, and to add reality users sat inside the cockpit of a real Jaguar aircraft. Movement was controlled using the new R C Simulations Gravis Stick yoke.

The display was projected on to a wall-sized screen outside and a navigator sitting nearby acted as co-pilot, taking instructions through a headset for anything other than the Tornado's movement from the budding pilots.

Prince William and Prince Harry were among the visitors taking a trip up to Mach 2.

Diamond open in London

ONE of the country's largest Amiga dealers are set to open the doors of their first central London showroom.

Southampton-based Diamond Computers (0703 232777) are to have their Tottenham Court Road premises officially opened by a celebrity and have promised to devote an entire floor to the Amiga.

Called Amiga World it will have a range of hardware and software products and will be backed up by a second floor of general computer peripherals such as printers and modems.

Marketing manager Jonathen Shirlow said his firm chose that specific London road because it is the Mecca of the computing world. He said it will offer quality products and a pleasant shopping environment without high prices.

The London showroom will open six days a week between 9am and 6pm and can be telephoned on 071-453 0434.

A Star is born



The LC-20, flagged by Star as the LC-10 for the 90s

A SUCCESSOR has been announced for Star Micronics' (0494 471111) ageing LC-10 dot matrix printer. The new entry level 9-pin model is targeted at home and small business users.

The LC-20 has a draft print speed of 180 characters per second and has eight near-letter quality fonts including italics. Other features include a 4K buffer, push tractor feed with short form tear off, paper parking and Epson and IBM emulation.

A Star spokesperson described the printer as robust and said its looks are in keeping with current design trends. It has an RRP of £233.83.

A new range of colour printers has also been released by the giant for professional users. The four machines in the Pro-to-Col series are mixed between 9 and 24-pin models and cost between £399 and £599.

WHAT'S new

Video to run on Amiga

ANOTHER multimedia program heading for the Amiga is Super Video Amiga, a solderless plug-in board that will enable live television or video to be watched through a monitor and grabbed for use in other applications.

The display will be a digital 24-bit image and there will be controls for volume, balance, bass and treble. The image is shown within a window which can be made any size on the screen and allows a graphic or text overlay.

Frames can be frozen and saved in common file formats for use in applications such as desktop publishing or sent by modem to another machine. It will require at least two megabytes of memory and is hoped to be priced at less than £500. Contact SAI Technologies on 081-566 6677.

Show off!

EMAP EXHIBITIONS (071-404 4844) made the shock decision to lock the public out of this year's European Computer Entertainment Show less than a month before it is to be run, from September 5 to 8.

EMAP's sales manager Ken Crosland told Amiga Computing *that the show has been relaunched as a trade-only show because the trade side of it was proving far stronger than the consumer side.*

Radio announcements on a London station and advertisements in the computer press will beg people not to go to Earls Court for the four days. EMAP says more companies are now planning to attend.

Among the exhibitors are Commodore, who say they are now re-thinking their strategy for the show. "It's a shame that CES hasn't happened because it has always been a show to promote our products but it will place a great deal more importance on the Commodore Show," said Commodore's Andrew Ball.

Printer winner

THE WINNER of the *Amiga Computing* competition at the 4th International 16 bit Computer Show was Mr Ryder of Palmer's Green, London. A Panasonic KX-P1124i dot matrix printer is with him and working hard already.

WHAT'S new

Monitor takes off

AS PART of a promotional campaign Philips (081-689 4444) are bundling Microprose's flight shoot-'em-up, F-19 Stealth Fighter, with their CM8833/II colour monitor.

Buyers also have the opportunity to enter a competition to win one of 33 flights at the controls of a Boeing 737 simulator. Three winners will have lunch at a top country manor hotel, with helicopter transfers to and from the Britannia Airways simulator at Luton Airport. Competitions will be held during October, November and December.

A Philips spokeswoman said F-19 was chosen after looking at quite a few software packages and finding that flight simulators were popular and broad-ranging. Microprose were the specialist in that market she said.

The bundle costs £269.

Gasteiner goes cordless

A CORDLESS memory upgrade and mouse are among a line up of new products set to be added to the Gasteiner Technologies (081-365 1151) range.

The Alfadata memory expansion has a fitting for inside the computer and communicates "like remote control" with the extra memory which can be put nearby, in places such as a desk drawer.

The price of the four megabytes of memory has still to be fixed and it is due on sale by October.

Mega Mouse is an optical rodent with a resolution of 300 dots per inch. Supplied with a solid pad and mouse holder it has a two year guarantee. It boasts a tracking speed of 600 millimetres a second, an ergonomic design and three microswitch buttons. No price has been set but it is to be available soon.

A new gimmicky pointing device is due for a Christmas release from the London-based distributor.

Crystal Trackball will operate like a normal trackball but whenever one of its three buttons is pressed the unit illuminates, its colour determined by which button is used. Gasteiner say it will probably sell for £39.95.

Cologne gets world's best show?

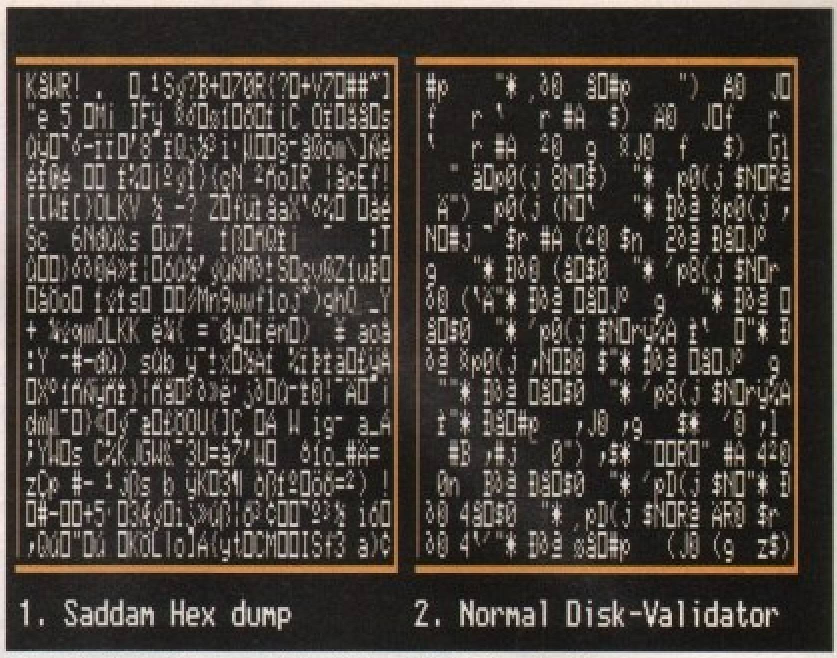
AN EVENT being flagged as the world's greatest Amiga show is to be held in Cologne, Germany at the beginning of November.

The organisers promise that four halls of the Koln Messe will be packed with more than 200 exhibitors from across the world for the show. Amiga 91's doors open on October 31 for trade and press visitors, and the following three days will be available for anyone interested in the Amiga.

Each hall will have a special theme. Hall 5 will contain professional hardware and software, Hall 6 will be devoted to hardware, entertainment will be featured in Hall 7 and for those interested in public domain, music and mail order, Hall 8 is a must.

There will be an exhibition of computer art, where visitors interested in graphics and art will be able to view the graphics capability of the computer and beginners' workshops and master classes.

For more information call organiser AMI Shows Europe on 010 49 8092 24086.



A hex editor's view of the normal disk validator and the Saddam virus file

Saddam virus scare

A NEW virus called Saddam threatening to ruin thousands of Amiga disks is almost invisible to virus checkers.

Writing itself to the disk-validator file in the L: directory it is disguised by being the same byte size as the validator and will prevent commercial games and other software from running.

Infected disks are unable to auto-boot because code is forced into the first line of the start-up sequence and it is also suspected of causing read and write errors. Unlike most viruses, Saddam enters the Amiga's memory whenever an infected disk is put into the drive and does not wait for it to be read.

Amiga Computing's technical expert, Stevie Kennedy, put the virus under the microscope. "We first spotted the virus after looking through a batch of PD disks", he said. "KDVIII's 30 second vector checker started to go bananas, so we examined the section of memory it reported as suspicious. A wad of code was found with the word Saddam firmly embedded in it.

"As far as we know, the virus will completely destroy the infected disk when activated, though the circumstances under which it will pop into life remain unclear. The only way to detect Saddam is to have a virus killer which carries out continuous vector checks.

"If readers already have KDVIII, which we gave away on the March CoverDisk, they should be able to spot the virus before it spreads any further, but the best way to deal with it is with version 5.23 of John Veldthuis's Virus Checker".

The program recognises the virus in action and comes with a new program called FixSaddam, which rescues damaged data blocks from a disk infected with the virus.

Data from destroyed disks will not be repaired but if you are using Virus Checker or KDVIII you should have enough advance warning of Saddam's presence to be able to disinfect the disk before it is irreparably damaged.

Readers should be able to pick up a copy of Virus Checker from one of the better PD libraries but we may include it on a future CoverDisk.

Silica links with GVP

A DEAL has been struck between Silica Systems (081-309 1111) and Great Valley Products to make Silica the official UK distributor of the American giant's Amiga peripherals.

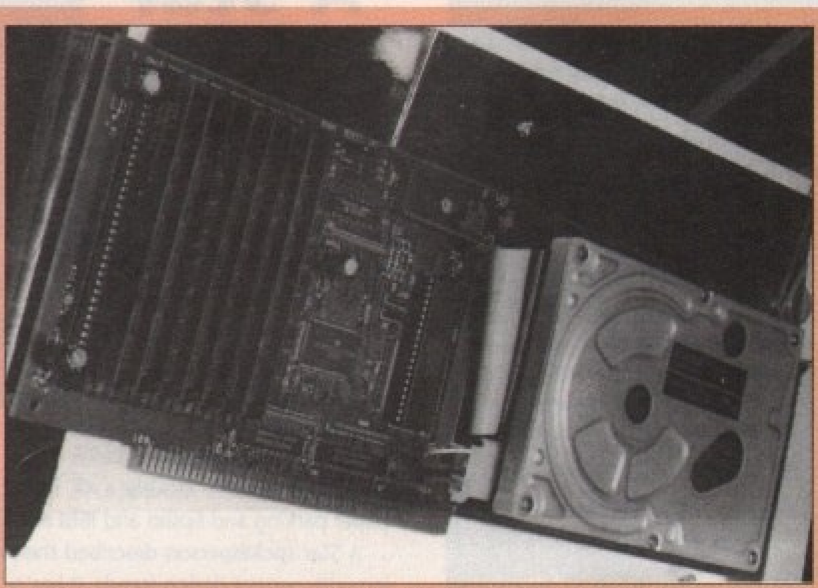
The world's largest third party supplier of Amiga hardware, GVP's range includes hard disk drives, cards and accelerators and caters for owners of all Amigas.

Among the products are a 52 megabyte A500 hard drive and ram upgrade selling for £599, and an A2000 hard card and ram upgrade with various capacity hard disks and ram sizes with prices starting at £199 for the interface.

"This arrangement means we have access to the best Amiga hard disks, accelerators and cards – GVP's Amiga peripherals are unrivalled", said Silica spokesman Andy Leaning.

"The joining of the two companies will give UK Amiga users access to unmatched products and support. You can now buy the very best products, safe in the knowledge that you are assured of the best in support and assistance".

Leaning also hinted that under the deal Silica will be responsible for handling American firm Lake Forest Logic's products, who were recently taken over by GVP. Great Valley adopted Lake Forest's range which includes The Disk Mechanic, ADAPT and Macro Paint.


Some GVP products were formerly available from Power Computing. The new deal makes Silica the official distributor for GVP's entire range of products, including the A2000 52 megabyte hard card with eight megabytes of ram



Evesham joins in BBC charity

IT WILL be up, up and away for 10,000 balloons at the end of November, when Amiga dealer Evesham Micros (0386 765500) release them in a bid to raise £10,000 for this year's BBC Children in Need charity event.

The Mighty Balloon Marathon will offer customers the opportunity to win an A500 with a colour monitor and the winner will also receive an Atari Lynx hand-held games console.

The balloons, each costing £1, will be launched from the BBC Pebble Mill studio near Birmingham on November 22, with a name and address tag attached to each.

Once a reasonable period of time has elapsed, the company will announce which balloon travelled furthest to become the winner. The firm are taking donations at any of their showrooms or by telephone. A few weeks after the sales started Evesham boss Richard Austin said they were likely to overtake their initial aims.

Amiga Computing and other Europress Publications are supporting the Evesham Micros event. A free advertisement will promote the campaign in the November issue of the magazine.

Organiser, Richard Hicks, told *Amiga Computing*: "We are confident of getting a good response and hope to add to the excitement and fun in our region".



Printers go two-tier

PRINTER owners with both laser and dot matrix models will have space problems cured with a new development from Rexel. The Two-Tier Printer Stand holds the two types of printer at once and is available for £133 from Action Computer Supplies (0800 333 333).

Ideal for computers

THE ORGANISERS of next year's Ideal Home Exhibition are to devote a section of the show to home computing. The Ideal Home Computing Show is a new feature of the event and will be held during the last weekend of the exhibition.

A spokeswoman said: "With more and more people working from home, the home computer has become a necessity.

The 1992 Ideal Home Computing Exhibition will be held at Earls Court from April 2 to 5, and will be open until 8pm daily.

Public gets a show

SOON after the EMAP announcement that this year's CES had become trade only, details of a new retail show became available. The Computer Market Show will be aimed at computer users shopping for computers, software and consumables at low prices.

Show director Andrew Cooke said: "There is going to be a superb range of exhibitors showing the latest software and PCs.

The venue for the three day show is Birmingham's Rex Centre (021-773 9090), near Birmingham's New Street Station. It will be open from 10am until 6pm on October 11 and 12, and 10am until 5pm on October 13.

CDTV move

CDTV OWNERS should soon find software using the machine's full potential following Commodore's appointment of multimedia pioneer Jim Mackonochie as general manager of CDTV development in Europe.

His main role will be to aid CDTV publishers and developers in European markets and will foster development in education, leisure and business applications.

Mackonochie had been working for the Maidenhead-based computer giant as a multimedia consultant since early last year and was a key player on the CDTV project team.

Stephen Franklin, managing director of Commodore, said: "Jim Mackonochie is one of the UK's leading experts in multimedia and we are very glad to have him at Commodore".

Jim Mackonochie: "I've long believed that CD technology was going to have a profound impact. It is clear that with CDTV this is now a reality".

AddXtra from number one dealer

MIDLANDS-based dealer Centresoft (021-625 3388) have been voted the number one software distributor in a recent survey by trade newspaper *Computer Trade Weekly* and have announced new Amiga peripherals.

The AddXtra range will be made up of several new types of product. A disk drive anti-click device designed to remove drive noise will sell for less than £10.

There will also be what the firm describes as a fun mouse which will switch between Amiga and Atari ST operation, a rom switcher to change Amiga 1.3 software to 1.2 and vice versa, and stereo headphones and an adaptor for plugging into the serial port.

Also imminent is an Amiga joystick and mouse switcher containing three ports for operation of two joysticks and a mouse. Half megabyte ram upgrades are available with or without a clock and the games Champions of Krynn or Kick Off 2. A 1.5 megabyte upgrade including clock is also available.

Managing director Richard Steele: "Centresoft intend that the AddXtra range of products will fast become the standard accessory for all different types of playing machine.

"Our aim is that AddXtra will stand for quality, value for money and power packed with extra value".

Do you know something we don't?

Although *Amiga Computing* has scores of contacts in the Amiga world we need you. If you have some hot news ring John Butters on the news-desk now on 0625 878888.

All information supplied will be treated in the strictest of confidence.

WHAT'S new

DIARY DATES

7 September 1991
All Formats Computer Fair
Organiser: Bruce Everiss
(0225 868100)
Venue: Horticultural Hall, Westminster.

14 September 1991
Venue: National Motorcycle Museum, Solihull

22 September 1991
Venue: City Hall, Candleriggs, Glasgow

6 October 1991
Venue: Brunel Centre, Bristol Old Station, Bristol
A touring show with plenty of bargains and heaps of public domain software.

5 to 8 September 1991
Computer Entertainment Show
Organiser: EMAP
(071-404 4844)
Venue: Earl's Court 2
NOW A TRADE-ONLY EVENT.

5 to 8 December 1991
Computer Shopper Show
Organiser: Blenheim Pel
(081-868 4466)
Venue: Wembley Exhibition Halls
An opportunity to buy some bargains before Christmas. It's expected to be visited by more than 50,000 people.

7 to 9 February 1991
5th International 16-bit Computer Show
Organiser: Westminster Exhibitions
(081-549 3444)
Venue: Novotel Hotel, Hammersmith
The first post-Christmas Amiga show. Expect plenty of bargains.

OVERSEAS EVENTS

20 to 22 September 1991
Amiga World Benelux
Organiser: InterExpo & Media Holland
(010 31 040 528191)
Venue: Fair Building, Eindhoven, The Netherlands
Much to be seen, including the CDTV and a 3D laser show staged with the help of an Amiga.

1 to 3 November 1991
Amiga 91 Koln
Organiser: Ami Shows Europe GmbH
(010 49 8092 24086)
Venue: Fairground, Cologne, Germany
The second major German show of the year is likely to attract more than 200 exhibitors.

● If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.

WHAT'S new USA



Report by Denny Atkin

Commodore lay-offs

It was the most upbeat time for the Amiga in recent memory. Commodore's Power Up program – which offered discounts of more than $1,000 on the Amiga 3000 to anyone who could produce a manual cover and serial number from any Commodore machine, from the Pet to the A2500 – was a massive success.

Power Up had Amiga 3000s back-ordered in the thousands. Meanwhile, NewTek's Video Toaster was quickly making the Amiga 2000 a *de rigeur* choice for video professionals and hobbyists – a professional market was finally taking the Amiga seriously.

And more games were pouring out for the A500 than ever before. In general, most of the professionals in the Amiga market seemed quite happy.

Until Black Wednesday, that is. At about midday on July 31, Commodore notified a number of employees in their research and development department that they were being laid off. At least several people directly involved with Amiga development were let go.

Although actual numbers couldn't be confirmed at press-time, sources within Commodore said that about 12 people involved with R&D had gone.

Perhaps the most significant lay-off was in Commodore's UNIX R&D group. The group had just finished the 2.0 release of Amiga UNIX, and were set to begin working on version 2.1, which will be compliant with the new ABI standard.

Now, only one person remains working on UNIX 2.1. Two others were transferred to Amiga development, and the rest were made redundant. It seems as if they're giving up on UNIX without giving it a reasonable chance to become profitable.

Online panic

When word of the lay-offs leaked to the online telecommunications networks, you'd think Commodore had announced that they were discontinuing the Amiga.

Users and developers alike justifiably wondered about Commodore's commitment – and common sense – when the company cut back the already small Amiga development team. While the cutbacks are disturbing – most companies Commodore's size have much larger R&D budgets and development groups – it's not time to panic.

There are still more people working on Amiga software and hardware development than there were in the Amiga's early years, and rumour has it that Andy Finkel may have gone to work with the CDTV development group.

While 85 per cent of Commodore's sales are in Europe, it's disturbing to see these R&D cutbacks in the USA., since operating system and hardware development for all of Commodore's Amiga markets is done here.

The company may be looking for quick ways to make the bottom line look better, but you'd think that by now Commodore would have figured out that the long term is extremely important in the computer industry.

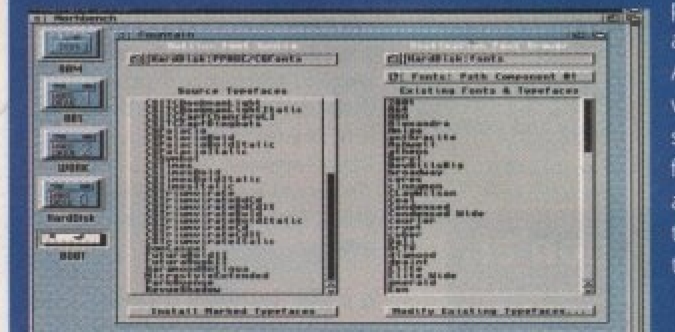
If they're still trying to sell the same old Amiga 500 and 2000 models a year or two from now, while everyone else is putting in R&D money to create better, faster, more graphically exciting computers, the company will be in deep trouble.

More found in 2.4

According to reports from developers who have received final disks and roms for product testing, there's a little more in Workbench 2.04 than many had expected.

It seems that Commodore did get their outline font technology completed in time for release. One of the disks that will be included in the 2.04 Enhancer package will contain a special outline-capable diskfont library, three scalable Compugraphic fonts, and a utility called Fountain that will enable you to create bitmapped fonts from the outlines, and convert Gold Disk's Compugraphic font disks for Professional Page so they can be used with AmigaDOS.

The outline fonts can be scaled to any size and will still maintain a smooth, professional appearance. AmigaDOS 2.04 will also scale standard bitmap fonts, but they appear chunky if they're enlarged too much.



Improved font technology with Workbench 2.04

Profits up

When Commodore released their fiscal year 1991 earnings reports, Irving Gould was quoted as saying "In the coming fiscal year, we will redouble our efforts to expand and enhance our line of products, pursue new market opportunities, and gain further operating efficiencies worldwide". We can only hope that the third goal doesn't overwhelm the first.

Commodore recently reported that their earnings were up for the fiscal year ending June 30, 1991, with earnings of $57.4 million on an income of $1,047.2 million. In comparison, FY1990 saw earnings of $1.5 million on sales of $887.3 million.

Former Commodore US chief executive officer Jack Rattigan took home a $9.2 million chunk of those FY1991 earnings, thanks to his settlement with Commodore for a breach-of-contract suit when he was fired a few years back.

Visual impact

There weren't many new products introduced at the recent AmiExpo show in Orlando, Florida.

The most exciting new product on display at the show was GVP's new Impact Vision 24 graphics card. At $2,199 retail, this is a card for only the serious graphics aficionado. However, if you're in the market for a 24-bit graphics card, it's hard to imagine one with more options.

Both PAL and NTSC versions of the board are available. Impact Vision is the first card that plugs into the in-line Zorro III and Video slots in the Amiga 3000; if you're installing it in an Amiga 2000, you must install it in a Zorro slot and run a cable over to the video slot.

The frame buffer display supports a 16-million colour display with full video overscan (768 x 625 in PAL mode), and is software switchable between PAL and NTSC. There's also a double-buffered 12-bit 4096-colour display mode suitable for animation.

Impact Vision's neatest feature is its built-in de-interlacer. Used with a VGA monitor, Impact Vision de-interlaces not only its own display, but all standard Amiga modes as well. At the moment, it's the only display enhancer for the Amiga that supports de-interlaced output.

Other Impact Vision features include: a real-time 24-bit RGB frame grabber that can freeze video or grab a single frame in 1/30th of a second; Picture-In-Picture, which allows you to view a live RGB video source in a window, surrounded by 24-bit graphics; both composite and RGB output in PAL and NTSC; and composite and RGB genlocking.

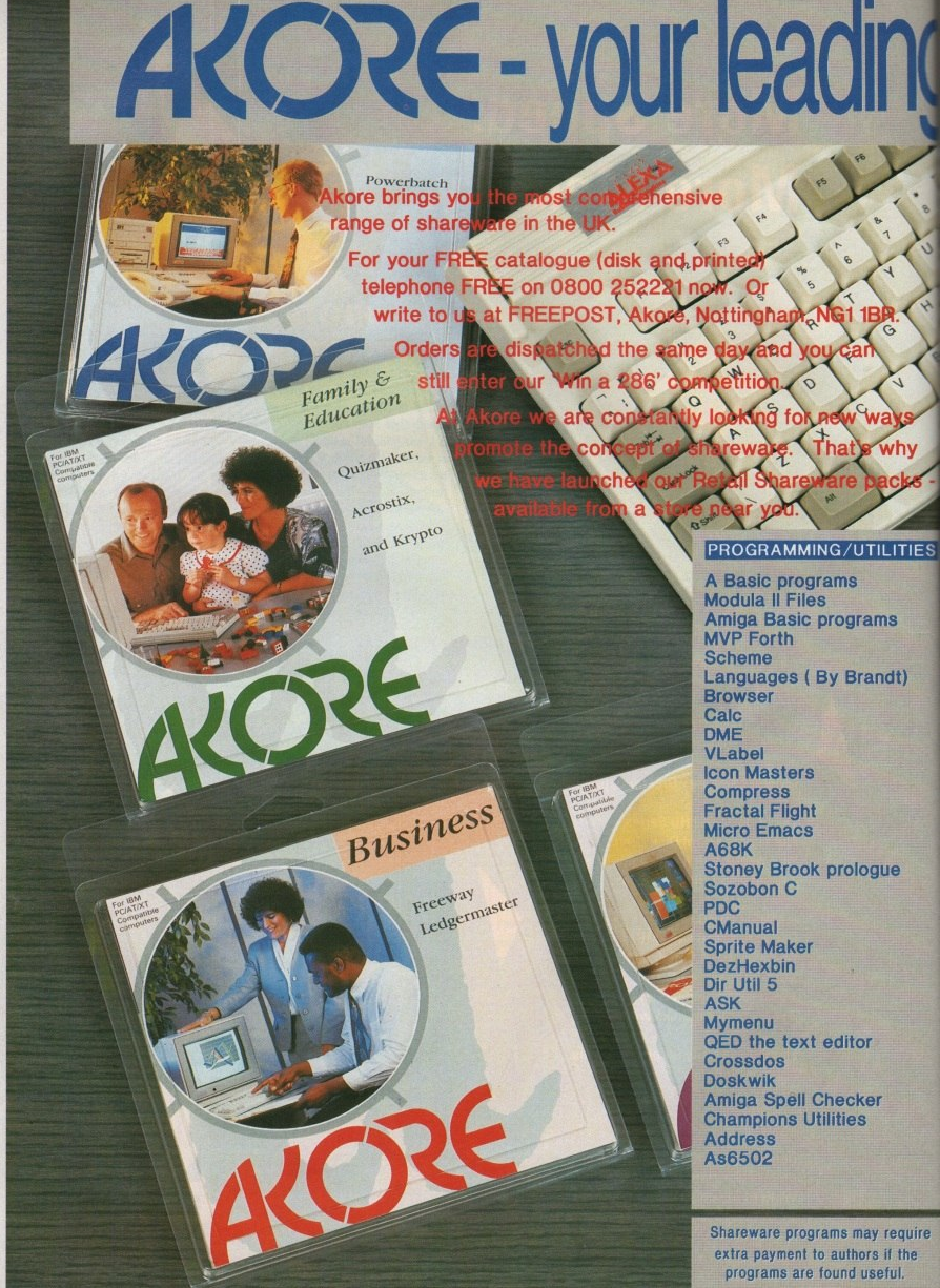
It's bundled with Macro Paint-PVA, a 24-bit paint program; Caligari-PVA, a special single-light-source version of the 3D rendering program; and Scala-PVA for video titling.

Depending on your video needs, the Impact Vision 24 board may be reason enough to stop waiting for NewTek to release a PAL version of the Video Toaster.

Inovatronics introduced Directory Opus 3.0, a commercial version of Jonathan Potter's shareware directory utility.

DeluxePaint IV was shown publicly for the first time, and the crowd was suitably wowed. New Horizons showed off DesignWorks, their new structured drawing program, and Cryogenic Software introduced the new 2.0 version of their 3D professional modelling packages.

More information will follow on these products as they're released for review.


Powerbatch
Family & Education
Quizmaker,
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and Krypto
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Crack epidemic

Though not a problem on the scale of the professional duplicators running full scale piracy operations, the activities of "crackers" have come to worry software houses a great deal. Working in groups, and sometimes liaising with others on bulletin boards in Europe and overseas, crackers are often experts in software protection routines and how to break into, or "crack" them.

They compete with each other as to who can crack a game the fastest, the current record belonging to whoever uploaded Psygnosis' Lemmings to a popular bulletin board before it was released to the public.

This sort of competition, though very much of the "mine's bigger than yours" school, spells trouble for the game in question because it is only a matter of time before a version of it appears which has absolutely no protection whatsoever.

When this happens, all the man-years of coding and development time which went into the game is wasted, and the company in question starts to lose sales.

We spoke to an anonymous member of the pirate community – he baulked a little at the term "thief", but then the truth hurts, doesn't it? This man is a self-confessed "cracker" of over 200 commercial games.

We asked him how, if at all possible, he justified his activities, and his answers go some way towards explaining the mentality of the people who plague the leisure software industry.

We'll call him Cutpurse, because he was a little shy when asked his real name, and, well, he *sounded* like he should be called Cutpurse:

When did you "crack" your first game, and what made you attempt it?

"I was about 14 (Cutpurse is now 19) and right into machine code. I liked to mess about with Pokes and stuff to find out the cheats, so I got into changing the game code after a while."

And was this on an Amiga?

"No, I used to have a 64, but I bought an Amiga 500 three years ago. The early games were dead easy."

How d'you mean, "dead easy"?

"They were hardly protected at all."

And have they become not so "dead easy" over the last three years?

*"Yeah, some are a real **** to crack, but that's what makes it so much fun."*

But did you realise you were breaking the law? (At this point Cutpurse became a little animated and his replies have had to be edited.)

"Yeah, but I only ever gave copies to my mates. We had a sort of competition to see who could crack a new game the fastest. We never sold them."

Did you circulate these copies?

"You mean, like, pass them around? Yeah. Like I said, we just cracked them, put our handles in them, and sent them to piss off other cracking crews who hadn't busted the game yet."

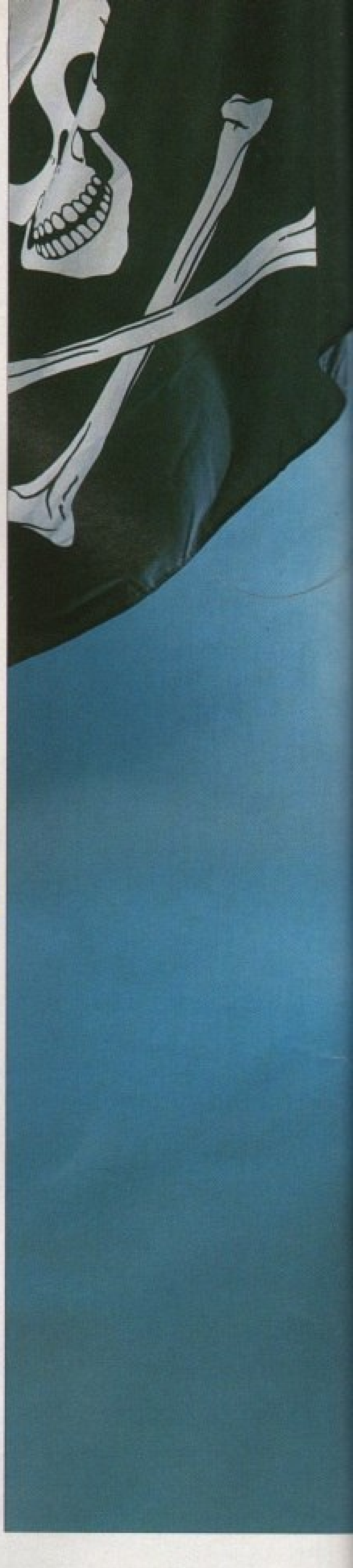
What do you think became of the cracked copies?

"Dunno. I never play a game once it's been cracked."

What if you found out a professional piracy outfit was using a game, cracked by you, and selling hundreds of them for profit?

"I'd say 'where's my commission?'" Cutpurse laughed heartily at his bon mot, then continued. "Seriously, though, I know there's a few of my cracked games around on bulletin boards and what have you, but what other people do with them is their business."

What if we said you could be prosecuted as a thief? (Cutpurse's reply consisted mostly of unprintable comments.)



Knaves and thieves

Amiga Computing explains why "pirates" is too good a word for them

Only if you follow the writings of the German philosopher Leibnitz, who believed God had created "the best of all possible worlds", could you summon enough optimism to assume that the thieves of this world would allow a profitable opportunity to pass them by. Most of us see things through slightly less rose-tinted spectacles.

In the early 80s, however, and for reasons best known to themselves, the computer press decided to slap the label of "piracy" on the type of theft peculiar to microcomputers – software theft. The label was a throw-back to the days of "pirate" radio stations, such as Radio Caroline, so called because they were based on ships out at sea, and in a short space of time it became accepted by all.

It is a complete misnomer. Software thieves aren't to be found climbing the rigging with swords in their teeth, or dashing their way through brave and romantic adventures – thus thoroughly deserving their rich booty for having entertained us all so well in the movies. They are simply thieves.

Have you ever, at school or in work, had a real brainwave and found it impossible not to share it with a friend or colleague, only to find out the next day they've presented it to your teacher or boss and passed it off as their own idea? You have? Then you too have been a victim of intellectual theft.

Imagine for a moment that your living depends on such original ideas and you find yourself in the position of a software author. Imagine again that your mortgage repayments depend on the development and packaging of the fruits of that idea, and you can then put yourself in the position of almost everyone else in the leisure software industry.

Not a nice feeling, is it? I mean, if you caught someone with his or her hand in your wallet, would you call that person a pirate, or would your exclamation be rather less romantic?

Flip a coin

If we may put on another hat, what about the punters: those whose expenditure on leisure software constitutes the software companies' profits? From their point of view, the piracy issue is less clearly defined.

Bombarded from all sides by peer pressures, extremely well considered

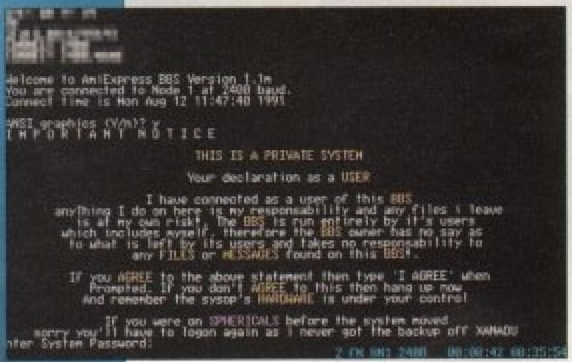




Stunt Car Racer complete with cracking crew's message. The disk, supplied anonymously, is an example of how protected games software can turn up in an entirely copyable guise



The piracy inner circle: a London BBS packed with illegal software – yours for the taking



The sysop of this board thinks that this disclaimer is enough to admonish him from the crime of theft

> *Pirates? String 'em up!*
>
> Simon Jeffrey, Electronic Arts

and cunningly pitched advertising, the reviews and recommendations of dozens of computer magazines, and the soaring price of games software, many of our readers may be thinking to themselves "what about us?"

Since the release of Kick Off 2 in 1989, the consumer has watched the average price of a top game soar from £20 to £30 and nudge upwards towards the £35 mark. In that time we are led to believe that piracy has, if anything, dropped off as the industry fights back through the Federation Against Software Theft (FAST) and the European Leisure Software Publishers' association (ELSPA). Why the discrepancy?

Pay your way

"We live," we were told by ELSPA's Roger Bennet, "in a capitalist society, and a product has to pay for itself." In other words, the software companies have increased the prices of their products to keep up with inflation and the rising costs of developing and marketing a successful game. The market economy argument, however, could be couched in another way. If the industry is responding to the push and pull of a supply and demand system, then the very success of professional piracy operations is a clear indication of a groundswell of demand for cheaper games. Why shouldn't software houses reduce their prices, thereby reducing the demand for illegal software?

If only life were so simple! There is no doubt an irrefutable aspect to this argument, but in the main it can be combated with another piece of simple capitalist deduction.

No matter how cheap a piece of software becomes, it will always be possible for someone to rip it off and sell it ➤



Dave Jones at DMA Designs was understandably sickened when Lemmings was "hacked, cracked and packed" – even before release

cheaper, because the thief has no overheads and no development costs.

You can still argue, of course, that low-priced professional products will win out over dodgy pirate versions, but in the software industry a disk is a disk is a disk. Unlike in the video industry where many pirate tapes are of a dubious quality, when you pirate a game it is every bit as playable as the original.

Faced with thieves who can often produce copies not only of the disks, but credible duplications of the manuals and even the packaging, software companies are in a position where they cannot compete with pirates. In any case, the opinion of many industry pundits is that to try to compete would be



Deluxe Paint IV is coming at the end of this month. You can have it now if you know where to look

self-defeating, lending an air of legitimacy to the pirates and smacking, therefore, of moral submission.

Consumer dilemma

Where does this leave the end user, who might spend up to £100 per month on leisure software? The Amiga owner with a wallet like a Tardis will be able to continue matching the software companies' rising prices, but for the rest of us there comes a time when the temptations of illegal but more affordable software can be too much to resist.

At this point, in a perfect world, the Amiga owner will tighten his or her entertainment belt and settle for fewer ➤

A myth exploded

It is *illegal* to make *any* copy of *any* piece of commercial software without having first obtained the written permission of the party or parties holding the copyright to that software. Not a particularly ambiguous position, when you get right down to it.

You can't make a copy for another member of the family, or one to loan to a friend, or to give away for nothing. You can't even make a backup copy for your own use, despite the belief held by many people that to do so is OK.

For a good few years now there have existed cartridge-based copying systems designed to break through just about any disk-based copy protection and "backup" the protected software to another disk. Although not sold as aids to piracy they have, inevitably, been used for the wrong purposes by some owners.

FAST's Bob Hay told us he's seen many cases of disks copied by people who would not have had the expertise to crack the protection routines had they not been making illegal use of backup cartridges.

For this reason, and after rumblings in the industry, many computer magazines including *Amiga Computing* have dropped all advertisements for such devices.

This is yet another example of how the actions of a minority of thieves can affect a great many more people, from the manufacturer's lost sales, through the magazine's lost advertising revenue, to the innocent users of backup devices. It is a perfect illustration of how software theft hits all of us, not just the developers.

The FAST answer

The Federation Against Software Theft (FAST), in existence since 1984, is the computer software industry's answer to the threat of piracy. We spoke to FAST's chief executive, Bob Hay, and asked him to summarise the state of play on today's software high seas.

What, we asked, is the most alarming aspect about piracy today?

"There's an international aspect to piracy in this country," Bob told us, "in that many so-called cracking crews are in contact with groups in Europe and the USA on a network of dozens or even hundreds of pirate bulletin boards."

And is this your biggest headache?

"Not just that. Distribution is an extremely difficult problem. Swapping and passing programs around is one thing, but unless money changes hands we can find it difficult to bring action."

You mean the sort of swapping carried out by schoolboys?

"Yes, but youngsters who swap illegal software are more of an educational awareness problem. We're not in the business of busting kids. It's not an answer to criminalise them."

Who, then, are FAST's main targets?

"My target is the professional pirate who is in it for a profit – but FAST isn't just about prosecutions. Our three aims have always been to prosecute where necessary, but also to launch education and awareness initiatives, and to push for legal initiatives."

Legal steps

FAST came into being initially through the impending amendment to the 1956 Copyright Act. While the software industry had been pushing for the sealing of loopholes in copyright law and the provision of full protection for magnetic media-based original material, the Home Office was reluctant to act if it meant placing more of a burden on existing law enforcement resources.

> *We're not in the business of busting kids. It's not an answer to criminalise them*
>
> Bob Hay, FAST

When the Home Office insisted the software industry make some attempt to self-regulate, FAST was conceived as the body to fill the gap. A year after its formation in 1984, the Copyright (Computer Software) Amendment 1985 received its royal assent and computer piracy officially became a crime.

With legal backing, FAST went into action. Prosecutions were slow in coming in the early days, as the judicial system adjusted its thinking to take computer crime on board, but the number of busts has risen considerably since then, and Bob told us he now sees at least one successful prosecution a month. Do FAST always get their man?

"We've only lost one case that went to court. However, many cases are settled out of court."

FAST is in a position where it can negotiate on behalf of a member company to secure compensation from companies or organisations in an out-of-court settlement.

This is often the most satisfactory way to deal with cases where there was no malice or profiteering intended, such as in a large company whose single wordprocessor package finds its way on to dozens of machines.

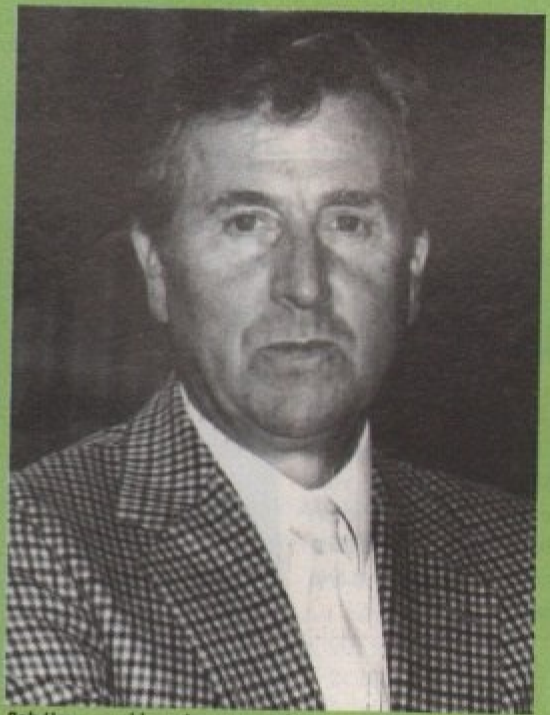
The recent much publicised case of The Yorkshire Evening Press, whose offices were raided on 12th July this year, shows how FAST will settle out of court when its members' interests can best be served in that way.

After a settlement Bob Hay described as "amicable", the software companies whose copyright had been infringed received suitable compensation.

However, the first leisure software pirate sent to jail after a FAST prosecution, Andrew Jayes of Nottingham, will have plenty of time to reflect on the error of his ways during his three month stretch behind bars.

The prosecution follows a year in which FAST seized £2 million of illegal software and made 12 successful prosecutions.

The message to prospective pirates could hardly be written in clearer terms.


Bob Hay – would you buy a second hand copy of D Paint from this man

The budget debate

When challenged, a great many computer users will use the high price of leisure software to justify their Jolly Roger software collection. The argument goes that if software publishers want to wipe out piracy, they should remove the stimulus which leads most ordinary users to copy games.

Bringing down the price of new games to £10 or less would, they claim, lead to many more people buying the original games.

While this argument has at first a certain amount of persuasive force, it takes only a little more examination to show just how implausable it is as an explanation for piracy. As Andrew Wright from Virgin Mastertronic told us, "the only way you'll stop games from being pirated is to sell them for less than the price of a disk".

If Virgin Mastertronic, one of the biggest budget software producers, falls prey to a high level of piracy, the argument about piracy being related to high prices loses much of its credibility. "Our re-released titles suffer most", Andrew explained, "especially relatively unprotected stuff like the Infocom games. I've often seen these for offer on bulletin boards".

While it is accurate, then, to say that more people would buy a particular game if it was cheaper, it is clearly not the case that fewer people would pirate it. Professional pirates are in business to rip off the software industry. Lower official prices would simply mean the pirates making slightly less money from their operations.

There's no denying the fact that some software is more expensive than it should be, and that sometimes it seems the copy protection routines receive more development time than the game itself, but high prices are no justification for theft.



Even if it's cheap – people still want cheaper

games. In the real world, however, this is a difficult exercise.

What of the parent with an Amiga-crazy child who brings home an obviously pirated game, or clamours for some of the dodgy looking but cheap software on offer at some market stalls? The only suggestion we can offer to people in this position is to report the software thief either to ELSPA or to FAST. Cold comfort, perhaps, but the only comfort we can give.

In the end, it is only through action on the part of the responsible Amiga-owning community that piracy will be tamed in our section of the market. Assuming that there will always be a demand for cheaper software, the only realistic way to break the vicious circle of spiralling prices is to cut out the illegal supply side of the market equation.

As more and more pirates are put out of business, the software industry will *have* to listen to the demands of its consumers and cut prices. Once companies know they can compete again in a market virtually free of illegal and totally unfair competitors, they will have no excuse for continually hiking their prices – and that's when we'll see whether they really mean what they say about piracy.

> *The only way to stop people pirating a game is to sell it for less than the price of a disk*
>
> Andrew Wright, Virgin Mastertronic

Is it a threat to free competition or a convenient excuse? The only people in a position to force the issue are you, our readers, so get on those phones and shop the thieves to FAST or ELSPA. If you don't, you've only yourselves and the pirates to blame.

ELSPA	PIRACY IS THEFT	FAST
0386 830642		0628 660377





Fairlight repackage an Ocean hit with some commercial flair.

Oceans Darkman, downloaded by AC before it was even released.

The industry speaks

Though FAST, after a series of spectacular successes, have received more attention in recent months, it was ELSPA who first lit the fire that was to become the blazing piracy debate. Their advertisements in the computer press, inviting computer users to "shop" friends or colleagues involved in software theft and offering a reward of £1,000 for information leading to a conviction, brought new life to a tired old argument.

Stirring up controversy, the advertisements were shamelessly provocative, and did as much as anything else to bring piracy to the fore. Some readers found the ads a bit too much but only one, showing a teacher being shopped by his pupils, was withdrawn because it was thought to be too sweeping a brush with which to tar the nation's teachers.

ELSPA "aims at the top half of the [piracy] iceberg," as Roger Bennet, ELSPA's chief executive told us. So does ELSPA have no time for small time pirates?

"We receive over 100 calls a week, and they're all stored on answerphone. We will respond to *all* instances where the caller has hard evidence and leaves a name and address. This information is obviously totally confidential."

Hard evidence?

"Yes. We don't have the resources to follow up what could be a wild goose chase. If we're sent a piece of pirated software with a receipt from the shop or trader who sold it, we can act immediately."

We asked Roger if the level of piracy has decreased over the past year.

"There has been a drop in piracy – there's no doubt our campaign has had a substantial impact. This time last year a number one hit would be selling to no more than 10 per cent of the user base instead of the 50 per cent or so you might expect. Piracy was to blame for much of the lost sales, but the situation has improved."

So why have game prices continued to soar? We asked him if there was any risk of the software market becoming a sort of "cartel" where games houses set their prices at the level everyone else was settling on. Surely this is as much a factor in the pricing of games as piracy?

"I've often criticised the software industry for being sheep-like," he explained, "and following each other's lead, but I'd refute any cartel view of the industry. It's a competitive market, and if a game is duff it won't sell. Magazines have a responsibility to point out the duff ones."

Do you think there could be a general drop in prices with your and FAST's successes?

"I see a drop in prices as a probability rather than a possibility, but the residual effects of last year's high levels of piracy are still being felt. It will take time for price cuts to filter through once games start selling to a larger proportion of the user base."

Finally, what of the present situation?

"There are definite signs of improvement, but piracy is still endemic."

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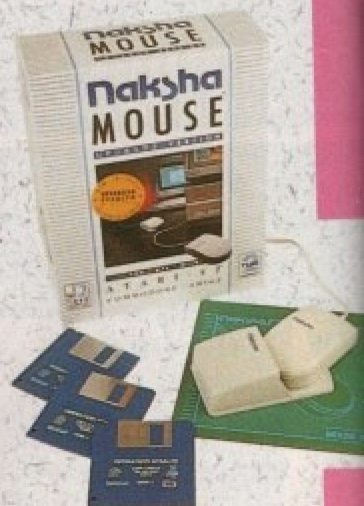
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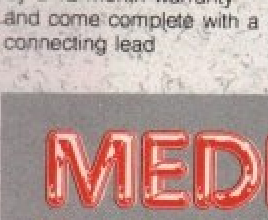
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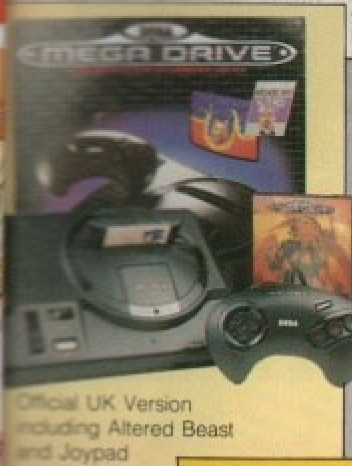


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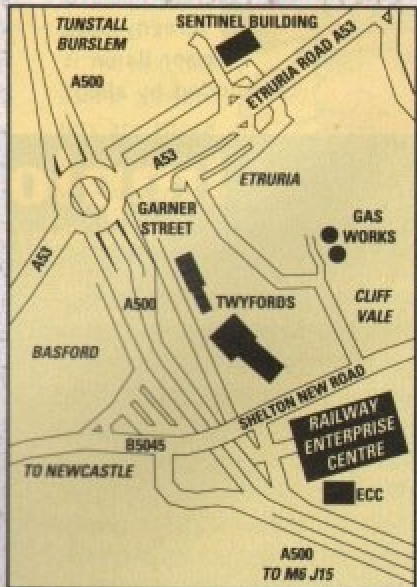
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Llamas with lazers



Even with a droid to help, you'll find some screen a bit frantic

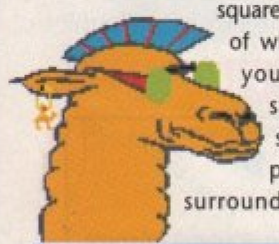
THE

Long-time computer users, and especially those of us who graduated to the Amiga from the Commodore 64, will remember Llamasoft as possibly the world's freakiest software house. Following a determined path of sheep, llama, and then camel-fixation, Jeff and company produced such classics as Revenge of the Mutant Camels and Sheep in Space.

After a long silence in the 16-bit market, Llamasoft are back. Amiga owners jealous of their ST-owning buddies – who've been enjoying Llamatron on ST shareware for some months – can now partake of one of software's most fun fetishes.

The game

Llamatron is played on a plain black square in the centre of which appears your llama. On starting each screen, the poor llama is surrounded by aliens which gradually swarm towards it, killing the beast on contact.



The time-honoured objective, therefore, is to blast as many greenies as possible before your inevitable demise, rescuing all the llamas, sheep, goats, and camels on each screen to boost your points total. To accomplish this you are armed with a laser-equipped llama, whose killing power can be augmented by the collection of power-ups.

Gameplay

There are several ways to play Llamatron, any one of which can be chosen by pushing the joystick in a certain direction while at the title screen. Pushing forward and back on the stick toggles between one and two-player mode, and pushing the stick left and right selects Solo, Player Plus Droid, or Team mode.

This is where it gets complicated! In *all* playing modes, the llama fires continuously, so there's no need to wear down your thumb or use auto-fire. In standard one and two-player modes, the camel fires in the direction of movement, but as this necessitates moving towards your target, thus endangering your life, there are a few tricks available to spray death and destruction wherever you like.

Those of you with four arms or a couple of joysticks firmly anchored to the desk, can press fire on the second joystick to play the game in a wacky mode that simulates the way many arcade games play. Using this mode, joystick one controls the direction of movement, and joystick two directs the laser.

In Player Plus Droid mode, your llama is accompanied by a purple blob which runs around doing all the violent stuff, leaving the player simply to avoid contact with the nasties. This mode is

Imploder

Author: Albert J Brouwer

Readers of *Amiga Computing* and users of the CoverDisk should by now be familiar with Nico Francios's file crunching utility, PowerPacker, and the multi-coloured flashing screen or mouse pointer associated with its runtime decrunch routine.

What most people may not be aware of is the large number of alternatives which exist in the cruncher market, not least of which is Imploder. The latest version, Turbo 3.1, is easily as fast as PowerPacker 3.0 Professional (now a commercial product), and in many cases will save more space than its better known rival. In addition, it is more amenable to the absolute Amiga beginner than PowerPacker, and assumes little or no knowledge of the machine.

The one real drawback with Imploder is that it will crunch only executable files (ie, runnable programs), so if you want to crunch, say, a text file you will still have to use PowerPacker.

To run the program, either click on its icon or select it using the ShortCut menu system at the top of your disk's Workbench screen. The program's friendly user interface pops up and from here on in it's plain sailing.

Let's Implode!

To start Imploding, click on the large Start button or select start from the single pull-down menu. A file requester then asks you to select the program you want to crunch. For our purposes, click on the C: directory, then double-click on the Sound program.

Sound is an 8k program used to play back sound samples and is one of the few executable files on the disk we haven't yet crunched to death. Once you've selected the file, Imploder loads it into memory and carries out its initial scan of the program.

The scan is the first step in an intelligent crunching process designed to take into account the very different programs one might want to crunch on an Amiga. Imploder will adjust its operation to best suit each file, and this flexibility is one of the secrets of its success.



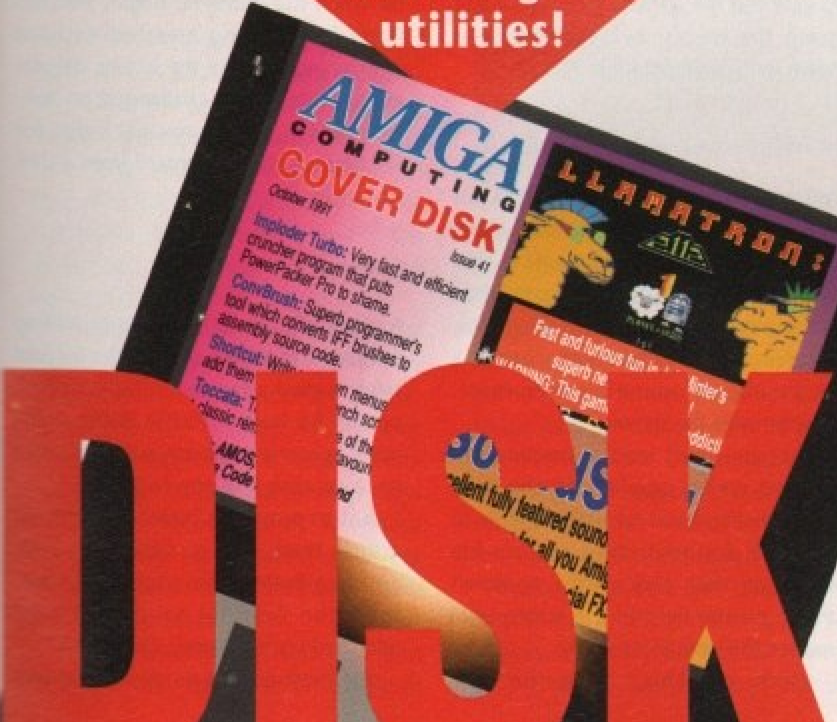
Imploder has a very friendly front end

By now you should be looking at Imploder's main crunch options panel. For the moment, ignore everything except the line of buttons marked 0 to 8. This represents the severity of Imploder's crunching, with 8 representing the most efficient, resulting in the smallest files, and 0 the least efficient.

The time taken to accomplish a crunch is obviously greater the higher up the scale you go, so the default value of 5 is a good middle ground. You can splash out and go for 8, but on small files of less than 50k the improve-



The Disk that no drive can afford to be without – because it's free! ONE FULL GAME, ONE TUNE, and four great utilities!



recommended for beginners until you get the hang of the way the game plays as it represents the best helping hand you'll ever get in Llamatron.

Team mode is possibly the most fun, as it enables a second player to join in with a camel. The two players share common bonuses, a common points total, and a common fate, so you'll find it easier to get a higher score, but will no doubt enjoy the potential for raging arguments when your chum gets fritzed and loses both of you a life.

The last, and ultimately the most important, technique is what Jeff calls "locking". This is done by pressing the firing button and holding it down, and locks the direction of fire in whatever direction you were firing when the button was first pressed.

As you progress, you will find this technique indispensable, as it is the only way of shooting at a greenie without also moving towards it. It is a difficult tactic to master, but with a bit of practice you'll soon be locking in and out and switching between directions of fire very quickly. If not, you'll be dead...

Power-ups

Where do I start? There are so many different bonuses to collect in this game that to list them all here would be useless. Instead, I'll go through some of the most useful power-ups which no ambitious player can afford to miss.

The ubiquitous smart bomb is present in the shape of a large smirking tomato which drifts towards the llama and explodes on contact, killing all greenies onscreen – though not the llama. On the first few levels it's best to avoid the smart bomb, because premature destruction of a level can often mean you don't rescue all the sheep and so on. On later levels, you'll find yourself screaming out for a nice juicy tomato and tearing at it like a bat out of hell once it actually appears.

The next most useful power-ups are those which affect the way your laser fires. ➤



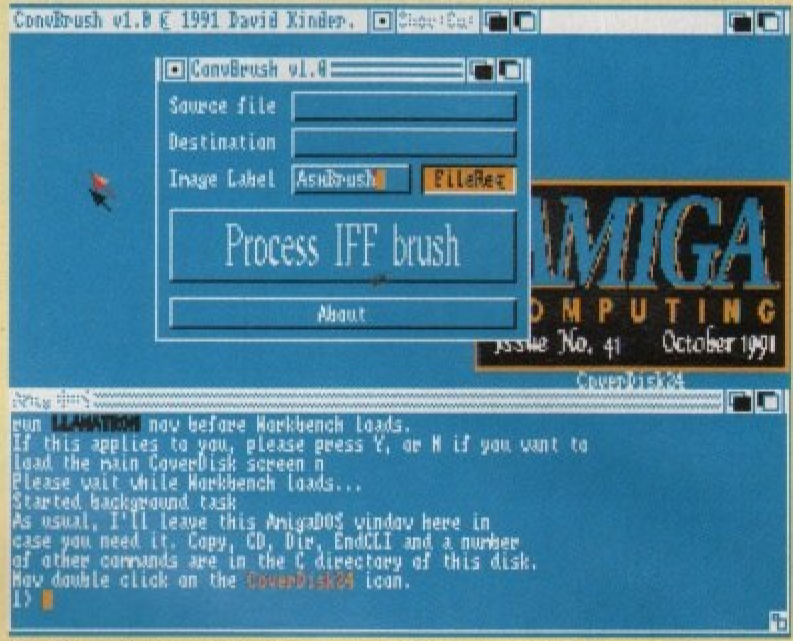
ment is often negligible. Click on Proceed to start crunching, and the first thing you'll notice is the light show on the right-hand side of the screen.

This is just a graphic equalizer-style representation of what's going on when the file is crunched, and the second column is the one to watch. You'll see the column shrink from 100 per cent down to almost 50 per cent as Sound is thoroughly squished.

Tense and exciting

For a more exact measure of the crunch, watch the percentage running total between the Start and Abort buttons.

Maybe it's just me, but I find this a curiously tense and exciting wait! Perhaps the knowledge that if it's not quite small enough it won't fit on the already bulging CoverDisk is what makes crunching so stressful.



Superb programmers's tool which converts IFF brushes to assembly source code.

ConvBrush

Author: David Kinder

A utility of use only to programmers, ConvBrush is a handy tool for converting any DPaint IFF brush to Assembler source code for use in your own programs. It is designed to work in a friendly, intuition-based fashion, but Workbench-hating CLI fanatics can launch it from there by typing

```
ConvBrush <RETURN>
```

If you don't use Assembler, you won't be using ConvBrush, and if you do use Assembler, you won't need telling how to use ConvBrush. Basically, it does what it does, and does it well, so if you get some mileage out of the program, send a shareware donation to: **David Kinder, 28 Langholm Road, Garswood, Ashton-in-Makersfield, Lancs WN4 0SG**

How to use The Disk

First of all, you must make a back-up copy of the coverdisk. To do this, boot up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

DISKCOPY FROM DF0: TO DF0:

or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

DISKCOPY FROM DF0: TO DF1:

Follow the onscreen prompts until the copying procedure has ended, then put your original disk away in a safe place. Now switch off the machine and wait for 30 seconds before re-booting with the copy. Wait until the CoverDisk17 icon appears, double click on it and away you go.

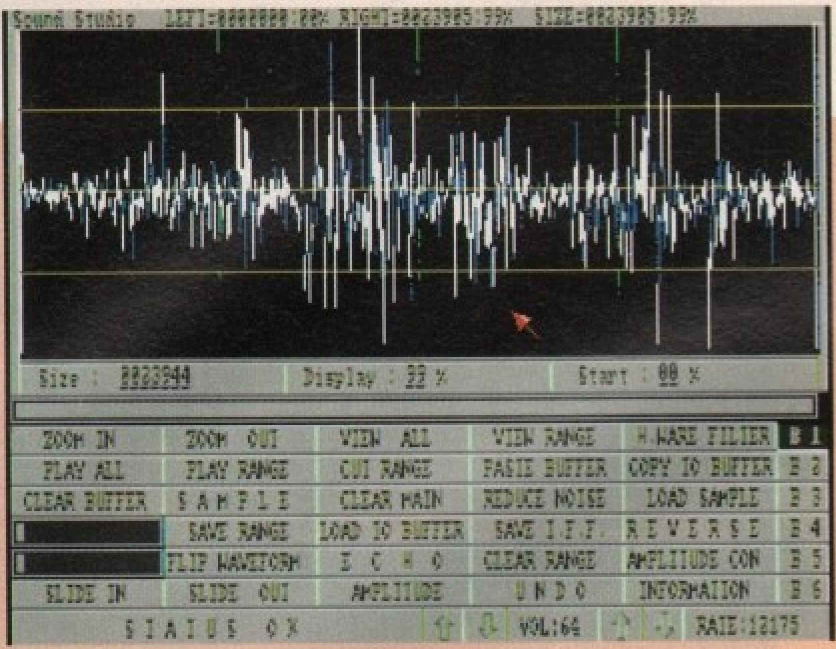
That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the coverdisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disk's C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!



SoundStudio complete with Bogey sample

SoundStudio

Author: Craig Eales

SoundStudio is an excellent utility for creating and editing sound samples for use in MED, SoundTracker, or NoiseTracker clones, or for just messing around with. It deals only with mono samples as these, besides being much more memory-conscious, are best suited for use with such sequencers.

The program is feature-packed but easy to use, and will be graphically quite familiar to anyone who's used sampling software before. There are no pull-down menus, all functions being carried out through a series of buttons on the control panel in the bottom half of the screen, and the program is exited using the Esc key.

If you're already a confirmed sampler, your best bet would be to mess about with the program and refer occasionally to the on-disk documentation when puzzled. Alternatively, by clicking on the Information button in the lower right hand corner of the control panel, you can bring up a quick reference guide to the various buttons and key presses which control the program's functions. If you don't already have a sampler, or if you're new to the game, I'll run through a sample editing session to give you the general idea. Once you grasp the basics, everything else is down to experimentation.

Beginner's guide

You might be thinking: why don't I just use the sampling software that came with my sampler? The answer is that SoundStudio is a smaller program than many commercial sampling programs, uses less memory than some, and is a lot simpler in operation than most. Now on with the show!

First you must load a sample from the two we've supplied on the disk. Click on the Load Sample button to bring up SoundStudio's custom file requestor, then click on the up/down arrows on the right of the screen until you see the Utilities directory.

Click on this, then on the SoundStudio directory, which will then allow you to click on the sample of your choice. For now, select the sample called Bogey and it will load automatically. Please note that to use the Load Sample button, you *must* have a disk in your internal drive.

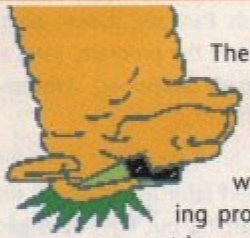
You now have a snippet from the film *Casablanca* in your Amiga's memory. For all you film buffs, it's from the bit when the immortal Bogart watches Peter Lorre being arrested without intervening, despite the latter's desperate appeals. When challenged on this, he replies: "I stick my neck out for nobody". A classic moment from a classic movie.

Safety first

A good principle to follow when editing samples is to keep a copy of the original safely tucked away somewhere, so click on the B6 button in the lower right-hand corner to activate buffer number six. Now click on Copy To Buffer.

Just to prove the buffer contents are actually there, click on Clear Main, then on Paste Buffer. The screen will clear, then the original sample will be refreshed from memory. Simple, eh?

For most editing functions, the user



➤ There is one to enable three-way firing, whose lifesaving properties cannot be underestimated, and one which makes your shots bounce off the walls instead of simply disappearing into them.

The latter is particularly deadly if you are forced to retreat into a corner, as by firing into it you can create a lethal crossfire of rebounding shots, especially if you also have three-way shots at the same time.

All in all, the most apt comment one can make about Llamatron is that Mr Minter makes exceedingly good shoot-'em-ups.

Share and enjoy

Last but not least, Llamatron is a *shareware* game. This means that if you like it and want to play it some more, and you're an honest person, you'll send £5 to: **LLAMASOFT, 49 Mount Pleasant, Tadley, Hants RG26 6BN**

In return, you'll receive another Llamasoft game, a brilliant poster of a gun-toting llama, and a Llamasoft newsletter. For five quid it has to be a bargain.



This is getting dangerous, moi cheri!

ShortCut

Author: Michael Bradley

ShortCut is a neat little menu utility – only 1.5k! – for adding user-defined menus in Workbench. If you've booted up the CoverDisk already, you'll have noticed that to illustrate its use we've used ShortCut this month instead of MyMenu.

To select a program or doc file from the disk, click in the ShortCut window to activate it, hold down the right mouse button, and make your selection in the same way you'd choose from any Amiga menu. So how does it do it?

If you look in the CoverDisk's S: directory wherein the startup-sequence normally resides, you will find an Ascii text file called shortcut.setup. This is the file ShortCut looks for when it is run from a startup-sequence or the CLI, and contains all the information for the menu which will appear on your Workbench screen.

A shortcut.setup file consists of a number of items separated from each other by hash marks (#), and a list of AmigaDOS commands to be carried out when the item is selected from the menu. The list is terminated with a hash mark and a carriage return and the next item is begun below it.

As an example, if you wanted a shortcut menu item to run your Workbench preferences program without having to go into the preferences drawer and click on the icon, you would run your text editor (ED will do) and include an item in your shortcut.setup looking something like:

```
Preferences#
CD WORKBENCH1.3:PREFERENCES/
RUN >NIL: <NIL: PREFERENCES#
```

You must use the RUN >NIL: <NIL: construction so that the application multitasks properly, but if you have BRUN or RUNBACK in your C: directory – BRUN is in this month's CoverDisk C: directory – these will do just as well.

The major limitation with ShortCut is that its menu items can't be more than 11 characters long, but you can have as many as 24 items. Even users with utility-packed hard drives should be able to fit everything into 24 slots.

In addition to the menu selection, each ShortCut item has an associated right-Amiga keypress combination. You can therefore launch your application by pressing down the right Amiga key and the correct letter, though if the ShortCut window isn't the currently active window you'll still have to click on it with the mouse to activate it before using the keypress.

As it doesn't use a device-handler, and is only 1.5k in size, ShortCut is very economical on memory, and because its items can have entire scripts attached to them it's as flexible as your AmigaDOS knowledge will allow

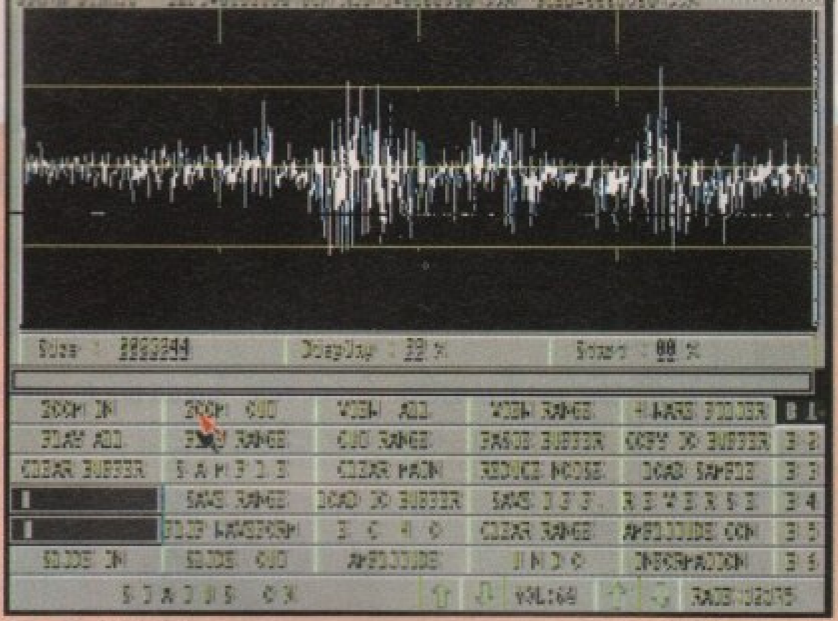
must define a "range" on which the operation is to be carried out. To do this, click anywhere in the upper window with the left mouse button. A bar will appear to indicate where the range starts. Now click somewhere to the right of this with the *right* mouse button to denote the end of the range.

Home on the range

Once you have set a range, you can really start to play about with the sample. Click on Play Range to hear the fraction of sample contained within the two range bars, then reposition the bars until you have isolated the latter half of the sample from the end of the word "out" all the way to the extreme right-hand edge of the sample.

If you now click B1 and Copy To Buffer, you can save this portion to buffer number one, then Cut Range. When you click on Play All after this operation, you will hear Bogey seemingly reverse his first statement by saying: "I stick my neck out"! To restore movie history, place the left range bar at the extreme right of the window then click on Paste Buffer.

What would Bogey have sounded like if he was sitting in an oil drum



Now add a bit of echo!

when he delivered his lines? SoundStudio can help you find out through the Echo function.

Before applying the Echo, please note the two sliders in the left-hand portion of the screen. These control different variables depending on the function you are using. In the case of Echo, the top slider adjusts the number of echoes which are added, and the second controls the delay time.

Pull both sliders one tenth of the way across to the right to add a few echoes with very little delay. One of SoundStudio's weaknesses is that you cannot specify more exact parameters for operations such as Echo, but a few experiments should be enough to sort out the sound you're looking for.

Once the sliders are positioned, press the space bar to return the range bars to the extreme left and right-hand sides of the window, then click on Echo. When the "please wait" pointer disappears, click on Play All to hear your echoing Bogey.

You'll notice if you experiment that lots of added echos will fill up the memory taken by the sample until you won't be able to listen to the whole sample. A cure for this is to copy the sample to a buffer, then paste it back in at the end of the original. If you now isolate the second sample and click on Clear Range you should have enough free space within your sample to add all sorts of effects.

Hardware overheads

To utilise SoundStudio to the full, you will obviously need a sampler. The program will accept input from just about any standard Amiga sampler attached to the serial port. Once you've connected a sampler with a sound source, click on the Sample button to begin.

The screen will go blank and you'll hear the sample as it is gobbled up. Exit sampling by clicking the left mouse button.

This is probably the simplest operation carried out with any sampling software – the good bits start when you get into editing!

A final note to hard drive owners. If your samples directory is on a hard drive, the best thing to do is copy it into your ram disk before firing up SoundStudio. The file requestor doesn't have a button for dh0:, but it does have one for the ram disk.

Tune of the month

First of all, we owe a huge apology to Andrew Dixon, of St Helens in Merseyside. As author of last month's Tune-of-the-month, pH-1, you'd think we'd give him a mention in our disk pages, but through a disgraceful oversight on my part, and a bit of last minute rushing, Andrew wasn't given the recognition he deserved.

SORRY ANDREW!

On to this month's tune, Toccata, by E Miller of Milton Keynes. If you've ever listened to Sky (the band – *not* the TV station) you'll have heard their excellent reworking of this perennial Bach favourite.

This month's tune is in turn a superb Amiga version of the Sky remix and makes for some very easy listening.

Don't take my word for it, though – run it through your hi-fi and sit back for an inspiring and musical treat!

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Please make sure you list ALL Workbench and other files necessary for the program to work. Feel free to design your own icons for progs which run from Workbench, but please don't make them too big.

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We are prepared to pay our current rates for original work which hasn't been distributed in any othe[r] way and which has not been put in the public domain.

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Your submission MUST be accompanied by th[e] submissions form, a copy of it, or a signed declaratio[n] to the same effect. Please supply your full nam[e] address and phone number.

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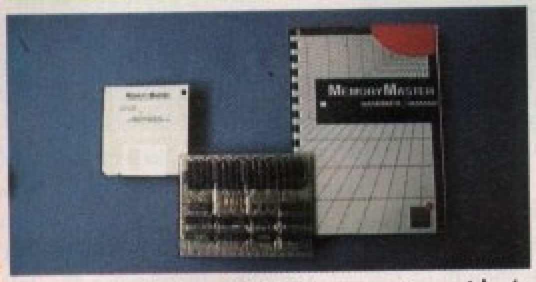
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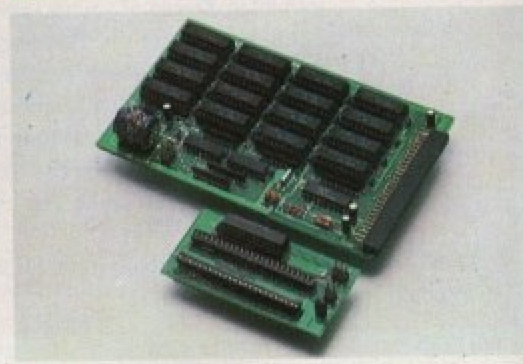
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Anton Zucharow shows how, with CanDo, you too can be a programmer

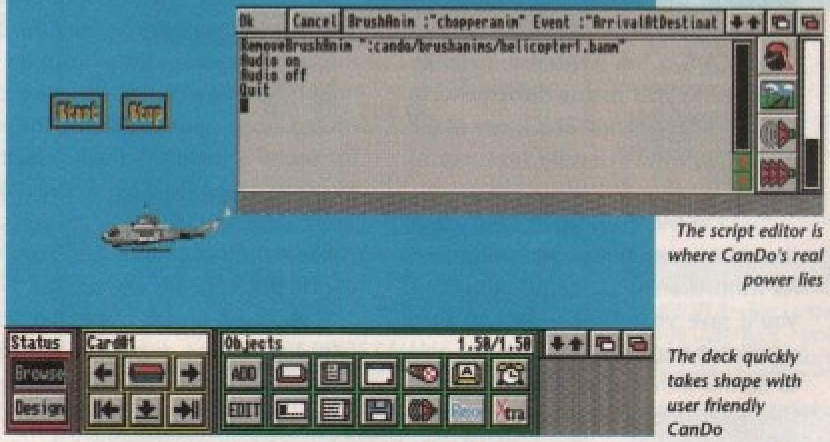
Coding with a click



There are thousands of Amiga users around the world who've yearned after the ability to program their machine to do new and exciting things, but who have given up in confusion only a few chapters into a manual on C or Assembler programming. If you are one of those people (and I know I am!), then the answer to your prayers has come in the shape of INOVAtronics's CanDo.

CanDo is an object oriented programming utility, which means it asks you to describe the desired end result, then does most of the coding bit for you. The system works on the principle that a program waits for certain "events" to take place, then reacts accordingly, and the beauty of CanDo is that it makes choosing the events as easy as clicking on a mouse button.

Before you leap into the world of CanDo programming, you'll have to have completed the task of de-archiving the immense amount of material squeezed on to the Test Drive disk from this month's front cover. Don't worry if you've never de-archived something before, as you're not going to do it now! The disk does everything for you – just make sure you have three blank formatted disks to hand, boot up the Test Drive disk, and follow the onscreen instructions.



The script editor is where CanDo's real power lies

The deck quickly takes shape with user friendly CanDo

Cards and Decks

A CanDo application is called a deck, and each deck is made up of a number of cards. To build up a deck (or application), therefore, the user adds cards one at a time until the deck is complete.

The deck we'll construct in this tutorial will have one card, containing an animation, sound effects, buttons to click on, and a couple of simple scripts. By the time we finish the tutorial, you should hopefully have gained an insight into CanDo and what it can do, and will be ready to tackle the further examples in the manual which you should by now have de-archived on to disk.

Boot from the first of the de-archived disks, which should be the CanDo program disk, and wait until the main control panel pops up at the bottom of the screen. This consists of three main parts. On the left is the Status panel with the Browse and Design buttons, then there's the Cards panel, and finally the Objects panel.

The Card

To start a card, click on the icon looking like a stack of cards in the middle of the Cards panel. This will bring up a requester with Card#1 as the default opening card. Click on Edit to edit this card, and when the next requester comes up, clear out the text in the name field and type Chopper as the name of your first card. Now click OK and then Exit to return to the main panel.

Now that we've renamed the card, we have to start putting something in it. Click on the Windows button in the Objects panel (top row, fourth from the left) to bring up the Window editor. We don't want the window to have a title, so just clear the word Unnamed out of the name field.

Next, click on the Dimensions button. This brings up a requester which allows you to set various attributes for the window and choose a picture to go in it, so click under Picture where it says Unnamed. You should now be looking at a file requester which has gone to the default drawer for pictures, the Images drawer on the CanDo disk. Click on Helicopter.PIC then on OK twice to return to the Window editor.

Click on the Objects button. This will present you with a selection of drag bars, close buttons, and so on. Make sure these are all un-selected as we don't want any of them on our Chopper window. Click OK, then on Options, which will bring up a list of options for the way your window opens up. Click on the line saying: The window has visible border", making it change to read: Window's borders are invisible. Now click on OK until you're back at the main control panel.

Helicopter.PIC is simply a medium



resolution blue background on which we're going to play with the helicopter animation, so don't worry if your screen doesn't look too busy at the moment.

The Buttons

To add a button to the window, click on Add, then on the Button icon (top row, second from the left). When the requester comes up, click on OK and CanDo will ask you to place your button onscreen. To do this you click with the left mouse button and drag until the button is where you want it and of the correct size. Click and drag any old place for now, because we'll type in the button's coordinates in a minute.

Once you've placed your button, the Editing a Button screen will appear. First of all, change the button name to Start instead of Button#1, then reset the Origin coordinates to 50 horiz and 50 vert. This will be a text button, so find the three Style options in the lower left hand corner and click on Text.

The font/text requester should now appear. Select Embossed from the range of text styles available, and make sure you have the word Start in the text field on the right. You can leave the default font and colour values as they are or mess about with them if you like. The effects of any change will be visible in the window above the requester, so feel free to experiment.

Once you're happy, click on OK to return to the Editing a Button screen, where you should click on Outline. This will avail you of a variety of optional styles for your button, but for now just click on Double, for a double bevelled outline, then on OK.

The Script

Now we'll take a look at what gives CanDo its real power – the Script editor and CanDo's built in scripting language. While still at the Editing a Button screen, look at the right-hand side of the screen where you'll find a number of buttons under the word scripts. Click on the Click button (this means your script will be executed as soon as the button is clicked on), and you will be whisked off to the script editor.

On the right-hand side of the editor screen, there is a strip of icons you can scroll up or down, each of which represents one of the types of events you can script for. Click on the animbrush object (the red and white checked ball) to summon the BrushAnim Path Editor Tool.

When this appears, click on the button labelled "banim", and when the file requester asks you to choose your BrushAnim, click on Helicopter1.banm, then on OK.

Now you have to tell the script what path you'd like the animation to follow on screen, so click on Record. The Path editor will pop out of sight and your cursor will appear with a rectangle around it. The rectangle represents the physical space taken up by the BrushAnim, and to record a path for it all you need do is click on the left mouse button where you want it to start, hold it down, and drag the mouse to where you'd like the BrushAnim to stop. Press ESC to exit the record function.

There should now be a visible path line on your screen showing the path your helicopter will take when the Start button is clicked. Now click on three successive OKs to get you back to the main control panel. Note the complex script CanDo has written for you by interpreting your mouse movements as a series of commands. This is one of the most beginner-friendly features of CanDo.

Once at the main panel, hold down the right mouse button and select Save As from the Decks menu. Normally, you'd save your CanDo deck at each significant stage, but you'll not be able to do this with the Test Drive version as the Save function has been disabled. Buy the full program from Checkmate Digital if you want to save things! You won't regret it!

To test your deck, click on the Browse button, then on the Start button on your recently constructed card. The helicopter should appear and follow the path you traced out for it. At this point, sit back and consider how long it would have taken you to produce the same result using C or Assembler!

Now to add some sounds. The first sound button will be a text button just like the others. Click on Add and then the button icon, then position the button as before by clicking and dragging with the mouse to bring up the Editing a Button screen. Call the button Sound and change the origin coordinates to wherever you like it best – the button moves onscreen as you press Return so you can mess about until you're satisfied.

Now click on Text. At the text/font requester label it as Boing!, use the Embossed style once more and click on OK. Now click on Click under scripts and prepare to add some sound.

At the Script editor, which will appear when you click on the Click button, scroll down the list of icons on the right hand side of the screen, then click on the single speaker. This is the icon for sound samples and will activate a requester called Play Sound. You should select Set The Filename from this, and choose the boing.snd file from the CanDo disk's Sounds drawer.

If you click on OK twice, the Script editor should be displaying the complete sound command, demonstrating once again the usefulness of its automatic scripting facility. Click on OK again to exit the Script editor, then return to the main control panel. A quick browse now should reward you with a silly sound that sounds like a rabbit in mid jump!

Chopper sound

As Boing sounds very little like a helicopter, we'll now add an appropriate sound to the chopper animation. While at the main control panel, click on the BrushAnim objects icon in the object panel (top row, third from the right), which will activate the BrushAnim Object editor.

Click under BrushAnim name where it says Unnamed, and when the file requester comes up, choose Helicopter1.banm and click OK. Click next on the button which says On Every Frame. This tells the Object editor to carry out the specified event on every frame of the animation.

When the Script editor appears, click on the Single Speaker icon, select Set The Filename and choose copter.snd. Now click OK until back at the BrushAnim Object editor. Now we want to stop the whole animation, including sound, once it reaches the end of its flight path.

Click on At Destination, and when the Script editor appears, type in the following script:

```
RemoveBrushAnim
"CanDo:brushanims/helicopter1.banm"
Audio On
Audio Off
Quit
```

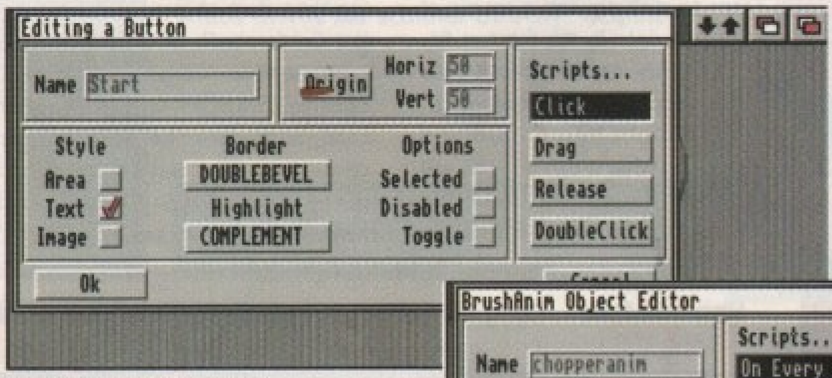
Now click on OK twice, then Exit to return to the main panel. You should now be able to click Browse, watch your helicopter fly around the screen, complete with engine noise, then come to a halt with the sound off.

For the moment, in the space available for this tutorial, that's about all we can cover, but you'll find a wealth of extra helpful hints and tutorials on the manual disk – the third disk you dearchived.

There are numerous sample decks for you to play about with, so you can browse through many more examples of the sort of applications you can write with CanDo. Some of them explore the more advanced script commands, for which you will have to buy the full version, complete with full manual to use properly.

The deck we have constructed here merely ripples the surface of an ocean of potential uses to which CanDo could be applied, and if you've been at all impressed by the ease with which you can create your own programs with CanDo, I'd recommend you immediately purchase the full version! Now, about that database I was writing...

CanDo is a product of INOVAtronics Inc.
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The Button editor makes creating a button as easy as pie



Add effects to your BrushAnims with the BrushAnim Object editor

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Making the most of

Back in the dim and distant past, two men made a proposition that changed the face of modern music. In 1981, Dave Smith and Chet Wood lit the fuse for the Midi explosion by proposing an industry standard which would enable the sounds of any instrument to be accessed from another.

After some heated discussion and the invaluable input of the Japanese, Midi was finally born in 1982. Once the die was cast the standard became universal and within 10 short years has successfully colonised almost every commercial studio on the planet.

By 1983, the first Midi-compatible synthesizers appeared and the race was on within the software world to support the new musical revolution. The first attempts at sequencing were somewhat less than subtle but nevertheless offered the essentials, such as unlimited overdubs and, of course, the ability to tweak, tidy or completely reorganise a track after it's been recorded into the sequencer.

These functions are at the very soul of sequencing and by definition lie completely beyond the limited talents of tape. Of course, along with increased editorial control, digital recordings never degrade no matter how many changes and attempts are required to produce the finished masterpiece.

In the eyes of many an old muso this technological disease has destroyed the sacred art of putting a swirling line of sound on to a plastic disk. But Midi has opened the floodgates for thousands of

> *Midi has opened the floodgates for thousands of talented musicians*

talented musicians who would otherwise never have carved their name into vinyl due to either a lack of opportunity, practice or tuition on the instruments of their choice.

This broadening of horizons has not only opened music up to the untrained, but for those musos who are willing to embrace the new technology the power of the computer has revolutionised the creative process.

Now an entire orchestra waits at the fingertips of composers and finished scores pour from printers at a single keystroke. Midi has the ability to experiment, cut, paste and transpose in seconds, and without the massive expense of countless re-takes and the extortionate amounts asked for studio time.

Thanks to Midi, modern recordings are being produced for a fraction of the price of tape-based system and due to the "suck it and see" approach which Midi allows, professionals and amateurs alike are producing work they never imagined possible. And all is achieved from the comfort of their own homes, visiting the studio is only necessary to add the finishing touches and lay down the final cut.



DATs the way to get perfect sound!

Clearing the air

Now, if you're a old Midi hand you'll be waiting for the usual acronym rundown with the inevitable meaning of Midi – which, of course, stands for the Musically Informed can be Desperately Irritating, as opposed to the all too often quoted alternative which other mags would have you believe.

This tendency for techno-speak rather than explanation is usually enough to put many off experimenting with Midi before they've programmed a note. In fact, Midi is by no means as complex as a lot of techno-junkies would have you believe, and to combat the acronym attack a brief explanation of some of the very basic principles is in order.

Get in sequence

The range of sequencing alternatives on the Amiga is increasing by the day, but at the moment the now world famous MusicX and Gadjits Sequencer One are the two to be beaten.

Both packages handle all the essentials and a good deal more besides, with MusicX being the more complex of the two and Sequencer the choice for those primarily interested in ease of use. Both packages are excellent but a little hands-on experience thanks to a friendly retailer would be a good idea before you make your decision.

MusicX might be the choice for the money conscious musos because there are a few good deals available if you fancy digging through the classifieds.

Having said that, there is some doubt about Micro Illusions' willingness to support the product as far as upgrades are concerned.

If you're looking towards studio work, either of the two packages would be ideal, and even if the studio you choose uses one while you've opted for the other, exchanging files between the two is simple so there shouldn't be any real problems. And of course, there's nothing to stop you dragging your own system in with you if necessary.

A note on keyboards

Keyboard selection is tricky because two opinions of the same hardware can differ considerably depending on taste, but as far as Midi's concerned the only real consideration is the available ports – which obviously must have IN, OUT and THRU. The THRU may not be available on ageing second-hand gear but it can be invaluable if you're planning to expand your system later.

A secondary but still huge consideration when investing in any keyboard is the availability of patch editing software. In the first few weeks of ownership this may seem unimportant, but it becomes useful when you're looking for



MIDI

The Amiga has long been waiting in the musical wings. Paul Austin explains how you and your machine can take centre stage



The Amiga comes of age

The next step up from a standard Midi setup is to record direct to hard disk. As little as two years ago this type of system was strictly for the pros, but thanks to Sunrise Industries of California such power may soon be in the hands of mere mortals like you and me.

Given a suitably well-endowed hard drive, an entire song can be treated just like a normal sample and complete sections can be cut, pasted, looped and combined as required.

The benefits of direct to digital recording are incredible, not only for the powerful editing options but also for the range of sound that can be captured. Due to the dynamic limitations of tape there will always be a certain amount of fidelity lost, but with a pure digital signal the entire dynamic range of the sound is captured and superb definition is added to the sound.

new sounds without incurring the expense of a new synth.

If you're on a limited budget, patch editing comes second only to sequencing. Put simply, it allows you to import the sounds from your synth or module into the computer for editing. This process is referred to as a fetch, and once fetched the formerly unobtainable sound appears onscreen as a series of waveforms and variables which are very easy to relate to, and which make complex changes as simple as dragging a point on a wave or selecting an option from an icon.

These miraculous little utilities allow you to redesign your sounds completely, all the way from simply altering the waveform right through to the type of reverb or the length of delay, in fact, any parameter relating to the sound. If that's still not enough, individual sounds can be blended or totally new ones created from scratch.

When your masterpiece is complete, either individual or entire banks of sounds can be saved to disk or dumped back into your synth in the locations of your choice. They will remain there until the next update, stored permanently just like the originals.

A word of warning: always back up before you start to tinker, it can save a lot of tears later.

Modular expansion

On the surface, modular expansion seems the ideal answer to the ever-increasing spiral of expenditure that musical addiction tends to inspire, with modules often saving hundreds as opposed to the keyboard alternatives. But it's still much easier to sell a complete keyboard than a module, so if you're the sort of person who has to keep up with the neighbours, complete keyboards may be a better bet, purely from a resale point of view.

Multi-timbral means simply that several instruments can be played at any one time. Most modern units play up to eight separate synth voices simultaneously in addition to a complete drum track arranged from a variety of drum sounds – and all that is packed into a tiny box best described as musical tardis. It's not all beer and skittles though, as there's a limit to the number of individual notes or partials that can be played together.

With most multi-timbral units the available number of partials is about 32, which means that up to eight separate voices can be playing in concert as long as the total number of individual notes doesn't exceed 32. Did I say Midi wasn't confusing?

This band-in-a-box effect is due to the power of Midi. The huge mountains of hardware once associated with the average keyboard player have been condensed into a single lightweight unit that produces the illusion of an entire band, thanks to a few blips of data from a sequencer. Isn't technology wonderful? It is, unless you're an ex-session musician, of course.



Heres a brief glance at some of the huge variety in the Multitrack market, from the tiny X-28 right through to some very serious eight track systems

For the beginner, multi-timbral units such as Roland's CM-32L and the older MT-32 are ideal. The sound quality doesn't match that of dedicated units such as Korg's M1 and others, but they're still a great place to start. Even with their restrictions on quality they can still match the performance of those infinitely more expensive units which were producing classic hits only a couple of years back.

OK, once you've chosen your sequencer, modules, keyboards or both, the next step is to connect it all up. With the Amiga this means stuffing a Midi box costing as little as £20 into the serial port, adding a few Midi cables and a Midi OUT from the source to the Midi IN on the box and you're off. If, however, you're looking to build a system that uses multiple sources, a Midi junction box is a good investment.

With most units offering Midi THRU it might seem a waste to invest in what is merely a signal splitter, but daisy-chaining three or four units together via the THRU ports can cause problems.

Each time the Midi information is passed THRU a unit a little of the initial quality is lost and as a result the signal can become dirty. The obvious result is that some data may become corrupt when it's passed on to the next unit in the line.

Because a Midi cable is basically a serial link which passes data in succession between units down the line, long cables mean increased transfer time. As a result, those at the end of a lengthy cable and THRU port connection may not receive their data fast and clean enough to keep up, and information can become scrambled.

> *'The range of sequencing alternatives on the Amiga is increasing by the day'*

A junction box simply gives a copy of the complete Midi signal direct from the sequencer to each sound source. There are no lengthy cables between the Amiga and the target and, of course, no THRU ports, so all your Midi information is delivered squeaky clean and at optimum speed.

The right track

Now, assuming you have a hi-fi or amplifier you should now have your latest creation blaring from the speakers in all its pure digital glory. Unfortunately for most of us, once the sequencing is complete it's time to compromise our digital principles and add some analogue, whether that be vocals, guitars or, in fact, anything that requires a mic before it can be captured.

If you're a digital purist it's possible to bypass the problem by sampling and triggering the captured sound from the sequencer. This is fine for the occasional "Yoo baby, get down momma", but if you're after a complete acoustic guitar track you'll need an entire hard disk sampling system to do it.

As you can see from some of the ➤

photographs there are plenty of multi-track studios on the market, but if you're a Midi enthusiast make sure you go for a unit with built-in Midi sync, or at least one which can support an external sync unit. This is vital if you're going for really big productions as it allows you to sync your sequencer to music already present on the track.

This musical miracle occurs thanks to a Midi Time Code or MTC which is recorded directly on to the tape. MTC is a descendant of SMPTE/EBU time code – this being the industry standard in the TV and the film business since Adam was a lad.

Once it's recorded on to a track, MTC can be read by the sequencer on playback or record. The sequencer can then adjust its Midi information accordingly, sending perfectly synchronised data to the various keyboards and modules as required.



Fancy this in you back bedroom?

The Mix-down

After you've built your system and written a classic, the final task is to mix down your masterpiece and create the next number one. Again, Midi can play a large part in the process, especially if you're working with a professional, Midi-friendly mixing desk which can, in some cases, be preprogrammed to punch in, fade out and mute tracks automatically as the mix takes place.

In the bad old days "mix down" meant all hands to the console as various tracks were added and subtracted from the overall sound. This process almost inevitably led to the odd disaster and a tendency for individuals to add a little too much of what they liked and perhaps a little less of what they didn't.

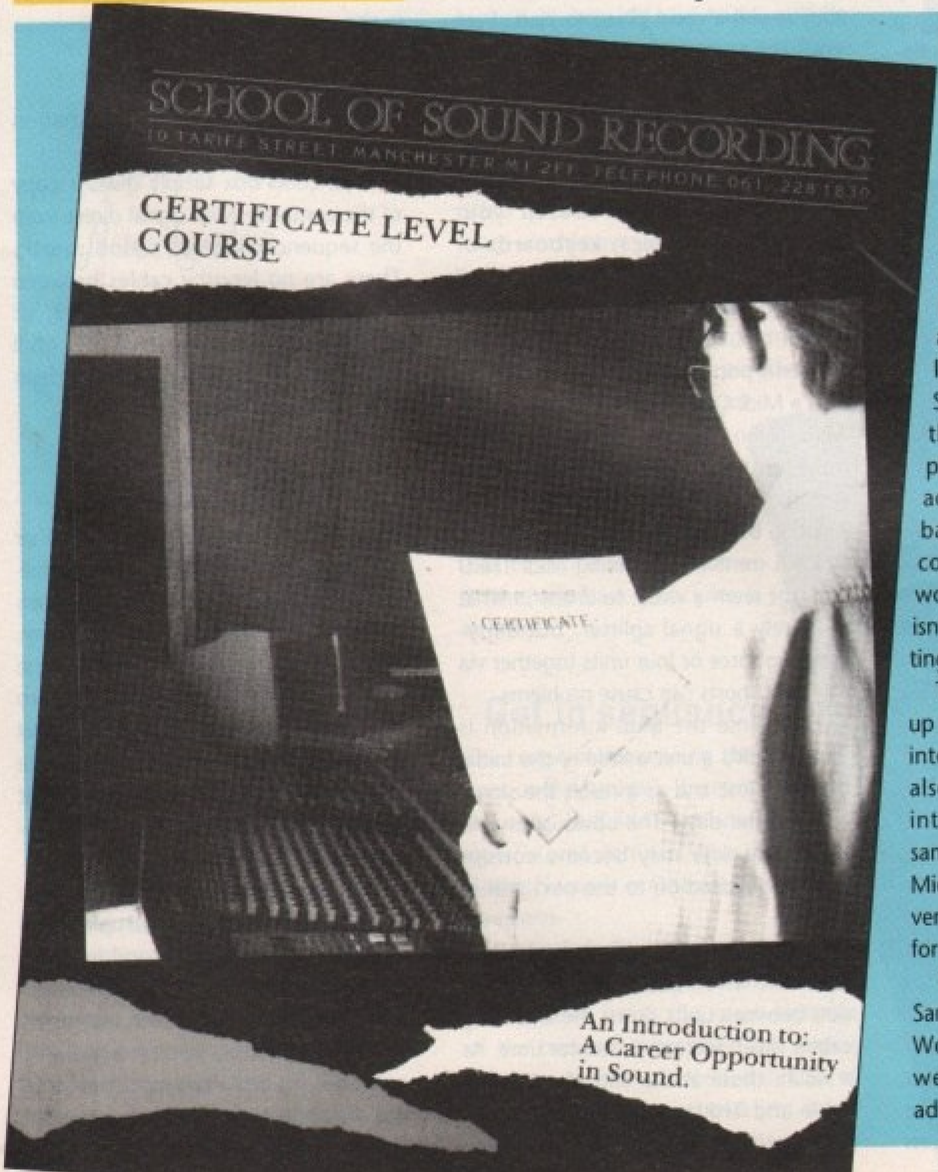
For most of us using home studio equipment the need for countless fingers on the faders isn't really a problem, but there's still the question of where to store your masterpiece and how to keep it at its best after the 400th demo has been dispatched to the ever-eager record companies.

In the past this meant occasional remixing of masters or running a few copies off at one time, all with the hiss that only analogue can add to the sound. Fortunately, an answer has arrived for the semi professional who wants to maintain sound quality.

DAT, or Digital Audio Tape if you prefer, is the answer to many a muso's prayer, giving a crystal clear signal and no degradation no matter how many copies are made from the original.

The DAT player in the article is a perfect example of what's on offer. Retailing at around £500, it's ideal for the serious enthusiast.

Special thanks to A1 Music Manchester and Spirit Studios for their invaluable assistance and especially to Max Lindsay-Johnson of A1 for his essential technical support.



Midi music lessons

As simple as sound recording and especially Midi may appear on paper it can be a confusing area, and to beat the technology blues Manchester's School of Sound Recording, or Spirit, offer a whole range of courses aimed to make any musician's first tentative steps a little easier.

Spirit offer three short five and three-day courses aimed at complete beginners as well as the more advanced. The first course gives a basic grounding in the studio and covers the basics of recording and working in a studio environment. It isn't aimed at Midi but rather at getting your talents on to tape.

The second course is a direct follow-up to the first and goes much deeper into signal processing and mixing. It also makes a start on Midi with an introduction to SMPTE time code, sampling, triggering and principles of Midi. If you can class yourself as a well versed amateur this could be the one for you.

The final part of the trilogy is the Sampling CMI Programming and Midi Workshops. This course runs over a weekend and covers the more advanced aspects of Midi, including the theory on sequencers, drum machines and a more in-depth look at sampling.

Time code and synchronisation are explained in more detail and there is a look at Midi-controlled effects and recent advancements in the field, such as Midi mixers, programmable patch bays and pitch to Midi converters.

The above vary in price from £172.50 to £230.00inc. If a week's tuition isn't enough Spirit also hold a 48-week course that can be taken either during the day or in the evening. As you might expect, this goes into great detail and is designed for those looking for a career in engineering.

Registration will set you back £50, with £30 to follow for each week of the course. All of Spirit's courses provide a certificate and, hopefully, a step in the right direction for you and your music.

Spirit also have a working studio and most courses allow the students a certain amount of studio time in which to produce either their own work or that of a band.

If you're interested in signing up you can contact Spirit for further details on: 061 228 1830.

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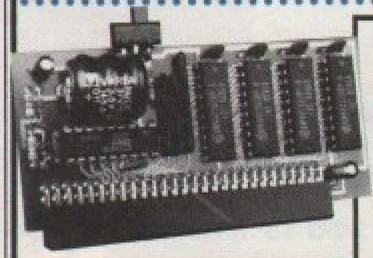
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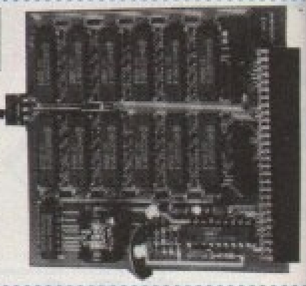
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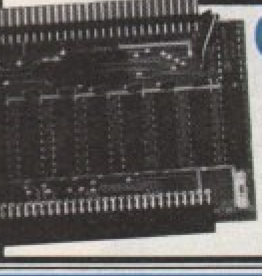
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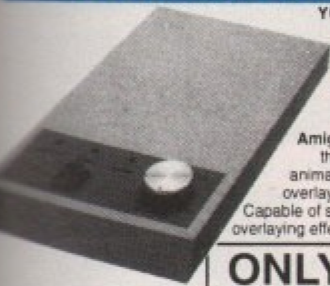


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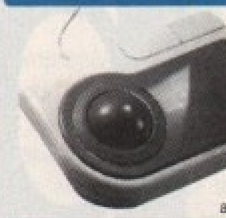
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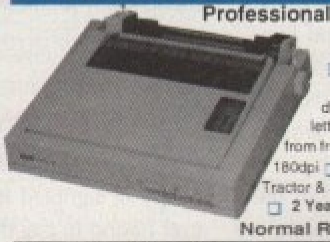
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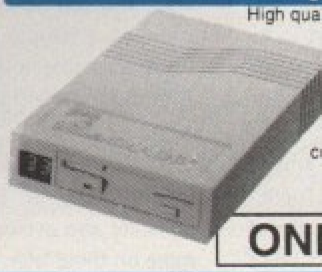


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Jason Holborn looks at the state of the art in Amiga sampling technology and offers a few tips on getting the most from it

Sampler talk

Are you totally flummoxed by sampling jargon? I'm not surprised if you are. With our guide to sampling jargon, however, you too can bore people stiff with seriously technical words.

KHz The sampling frequency is measured in KiloHertz (KHz). This value denotes how many times per second the sampler analyses the incoming audio signal (x 1000).

ADC Analogue to Digital Converter. This is the heart of the sampler. Its job is to convert an analogue audio signal, such as from a hi-fi, microphone or CD player etc, into a series of numbers which the computer can understand.

DAC Digital to Analogue Converter. As you can probably guess, this is the opposite of an ADC circuit. A DAC converts digital sample data held in the memory of your computer into an analogue signal which is passed through to the audio jacks built-in at the back of your Amiga.

LOOPING Looping is a process whereby a short burst of sound is played continuously to give the illusion of a much larger sample. Loops can be used with anything from a simple tone to a drum pattern.

Sample city!

You don't need me to tell you what a great machine the Amiga is for playing around with music. Whether you're composing your first chart hit in Music-X or just tinkering around with Quartet, the Amiga's musical talents are more than obvious.

But you don't need to be the next Jean Michel Jarre to play around with the sound capabilities of your Amiga. Using a nifty little gadget called a sound sampler you can literally grab sounds into your Amiga from your favourite records, or even from real life, and play around with them to your heart's content.

A sampler converts sounds from the real world – analogue sounds – into a format that the computer can understand. And as we all know, this can mean only one thing – numbers, lots of them. These numbers can then be played back by the Amiga's powerful sound chip, Paula.

OK, so far we have what amounts to a rather expensive tape recorder, but the Amiga can do a lot more than this.

Using a sample editing program, you can manipulate the sound in any number of ways, ranging from simple operations such as cutting, copying and pasting sections of sample, to the real fun stuff like adding echoes and looping. Don't worry if all this techno-talk confuses you, we'll be explaining the jargon later on.

But why buy a sampler? The answer is simple – they're a lot of fun. There's something uniquely perverse about being able to sample someone's voice and then play around with it. If you've ever wanted to put words into your best friend's mouth or play burping sounds on your Midi keyboard, a sampler is the thing for you.

Samplers aren't only good for making your Auntie Mavis sound like a space alien who's been on the helium, though. If you're feeling a little musical, you can use your sampler to grab instruments from prerecorded music or from real life.

Getting serious

In this way you can build up a huge library of sampled instruments without ever having to pay the high cost of buying the equipment yourself. With professional instruments costing many thousands of pounds these days, sampling is a considerably better bet.

I've annoyed quite a few people by sampling instruments for which they've had to pay hard cash. Despite the fact that I only own a single synthesiser (a Korg M1), my sample library consists of sounds from a vast range of professional kit including the D50, the SY77 and even the infamous Fairlight.

Once samples are laid down on to tape, you can hardly tell the difference between a sample and the real thing. What follows is a roundup of the best samplers currently available on the Amiga.

We've deliberately restricted it to 8-bit samplers, but both 12 and 16-bit units are also available. We'll bring you more on these later.

Maste

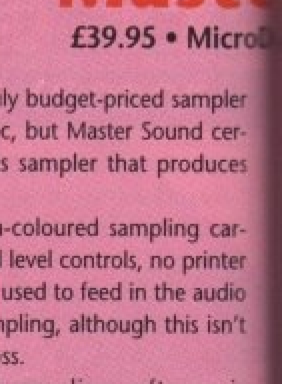
£39.95 • MicroD

MicroDeal were one of the first companies to produce a truly budget-priced sampler in the shape of their excellent Master Sound. It's fairly basic, but Master Sound certainly delivers the goods. If you're after a cheap, no frills sampler that produces decent samples, MasterSound is a good bet.

The MasterSound package consists of a spartan cream-coloured sampling cartridge graced with just a single connector. There's no sound level controls, no printer passthru, no nothing – just a single jack connector which is used to feed in the audio signal. As a result, MasterSound doesn't support stereo sampling, although this isn't really much of a loss.

Value
Features
Sound Quality
Software
OVERALL......................76%

The bundled sampling software is pretty, but is lacking in real editing power. Most of the basic functions are there, but AudioMaster 3 it most certainly isn't. One nice feature is its built-in sample sequencer which allows you to produce very simple tunes using your samples. The overall sound quality of Master Sound is very good from within its own software, but it did tend to degrade when used with AudioMaster 3. On the whole though, samples were clean and crisp.



Master Sound

TechnoSound Turbo

£34.99 • New Dimensions • Tel: 0291 690933

Introduced to compete with MicroDeal's Master Sound, New Dimensions' TechnoSound is a real killer of a sampler. Packed with powerful, and some genuinely fun, features it's a sampler to be reckoned with. Now that it's been upgraded – hence the extra Turbo bit in the name – is there no stopping TechnoSound?



The TechnoSound hardware looks very similar to Perfect Sound. Not only does it share the same colour – black – but it has the same two connectors living at its rear.

Like Perfect Sound, it too can sample in full stereo. Unfortunately, the build quality of TechnoSound didn't seem too hot, but then I suppose you must expect some concessions when a sampler that is as capable as TechnoSound is sold at such a low price.

The TechnoSound software is pretty impressive. It has all the usual editing features you'd expect, but what makes it so good is its fun features.

Its built-in special effects allow an incoming sound signal to be processed in real-time – just like a professional effects unit, really. These effects include the usual echo and reverb, but the fun starts when you play with Exterminator and Legless.

Value

Features

Sound Quality

Software

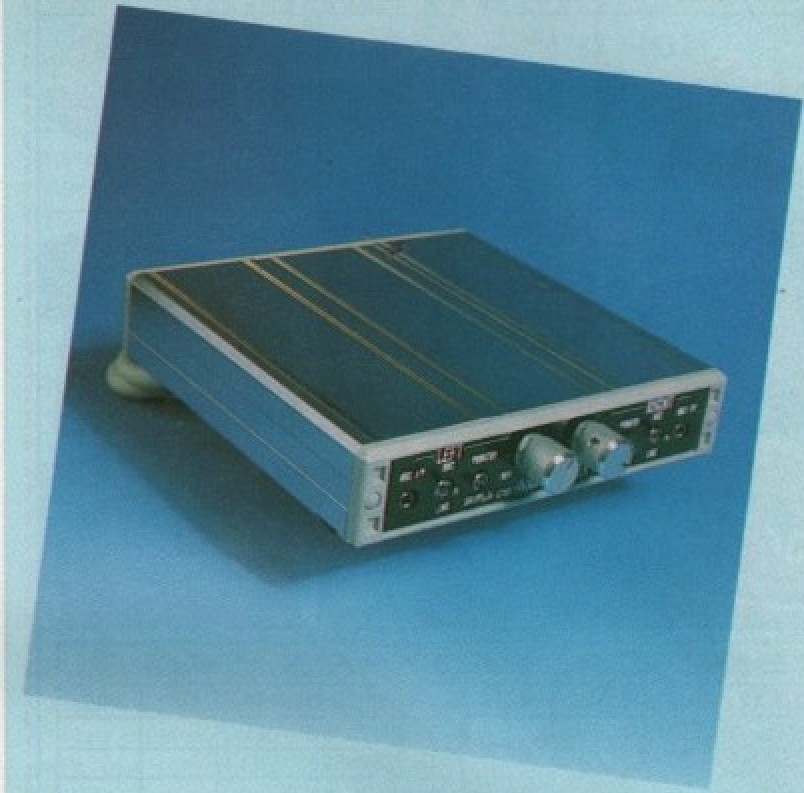
OVERALL 86%

The sound quality of TechnoSound is surprisingly good, but it occasionally produced samples which were a bit muffled. I wouldn't hold this against it though – if you did, you might just be missing out on a real bargain. On the whole, if money is a little tight, you won't go far wrong with TechnoSound.

...steSound

• MicroD... Tel: 0726 68020





Audio Engineer

£199 • HB Marketing • Tel: 0753 686000

If you're looking for the Rolls Royce of Amiga samplers, look no further than RamScan's Audio Engineer. It's a fairly pricey little number, but you'd be hard pushed to find an Amiga sampler that can touch it.

If you intend to use your Amiga sampler professionally (and many well known musicians do – Paula Abdul, for example) you'd be a fool to look elsewhere.

Value

Features

Sound Quality

Software

OVERALL 94%

What you get for your money is a pretty impressive sampler about the size of an average modem. It has a printer passthru connector built-in so there's no problems there, although you have to switch out the sampler to use this feature.

On the front of the unit is a large array of bits and pieces which include two volume control knobs for the incoming signal and connectors for the sound signal.

As you've probably already guessed, Audio Engineer fully supports stereo sampling. Its twin DACs and quite sophisticated filtering and anti-aliasing circuitry allow for some exceptional samples. I've said it before, but I'll say it again – Audio Engineer produces some of the sharpest and cleanest samples I've ever heard on the Amiga, rivalling some 12 and even 16-bit samplers.

The bundled sampling software is exceptional. Despite the fact that it has Audio Engineer plastered all over it, it's really AudioMaster 3.

As any Amiga sampling aficionado will tell you, there's no better sampling program than AudioMaster.



Audio Engineer

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DAVID HASSELHOFF			KYLIE		
MARILYN MONROE			MADONNA		
MICKEY ROURKE			METAL LADIES		
SHWARZNEGGER			METALLICA		
PATRICK SWAZYE			GEORGE MICHAEL		
BLUES BROTHERS			NKOTB		
TERMINATOR 2			POISION		
GHOST			SEX PISTOLS		
AC/DC			SKID ROW		
BEATLES			SPRINGSTEEN		
BON JOVI			TINA TURNER		
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T-SHIRT DETAILS	SIZE	QTY	PRICE	T-SHIRT DETAILS	SIZE	QTY	PRICE
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QUEEN				INSPIRAL CARPERTS			
BON JOVI				JAMES			
AC/DC				KLF			
WHITESNAKE				MC HAMMER			
SISTERS OF MERCY				STONE ROSES			
PRINCE				MADONNA			
INXS				CHESNEY			
WET, WET, WET				NKOTB (JOEY)			
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ISSUE TWO ON SALE NOW



Perfect Sound 3

£59.99 • HB Marketing • Tel: 0753 686000

If there's one company that knows a thing or two about Amiga samplers, it must surely be SunRize Industries. They've been working on their Perfect Sound system for more years than I dare to mention, so you'd think that they'd have it right by now. Unfortunately, Perfect Sound is still nothing more than above average, so you may well want to look elsewhere before taking the plunge.

SunRize's sampler is a mysterious black box that – like most samplers – plugs into the parallel port of your Amiga. It too is rather spartan hardware-wise, with nothing more than a couple of connectors at its rear to break the monotony. The overall standard of construction is very high.

Some of you may already have a copy of SunRize's earlier sampling software, since it is now freely available in the public domain. Version 3.0 of the Perfect Sound editor isn't that much different from previous releases, apart from the obvious cosmetic changes. It's a very nice program to look at, but I must admit that it seemed a little tatty in places. Unfortunately, some of its requesters are particularly poor.

The quality of samples grabbed with Perfect Sound is pretty good, but a high-frequency audible hum was introduced to some samples. It's not that easy to spot, but anyone with a trained ear will point it out straight away.

Despite this quibble though, Perfect Sound is still a very good sampling system.

Value

Features

Sound Quality

Software

OVERALL.......................78%

Sample Studio 2

£69.95 • Datel Electronics • Tel: 0782 744324

Datel's offering to the more serious sampling fanatics is the Pro Sample Studio 2, a bulky but reasonably capable system that builds upon the strengths of Datel's original Sample Studio system.

Unlike all the other samplers on test, Datel's unit is the only sampler that doesn't connect to the Amiga's parallel port. Instead, Datel have wired the thing up so that it runs off the expansion port on the left-hand side of the A500.

As a result, it won't work on any machine other than the A500, although an internal version which plugs into the co-processor slot of the 2000 is also available. Datel have also thoughtfully included a passthru connector, so hard disk users are still able to use their drives on the 500.

Value

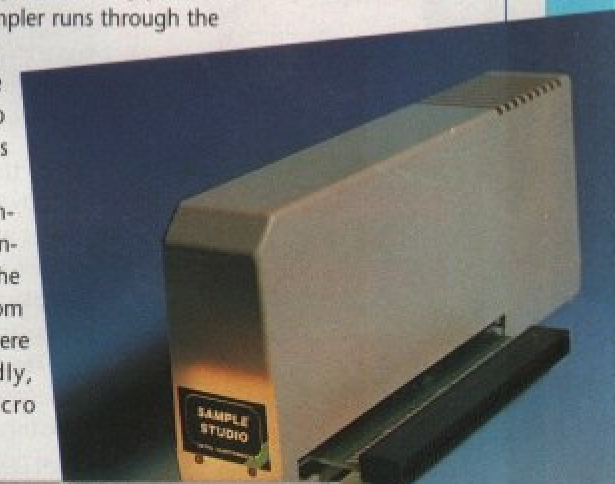
Features

Sound Quality

Software

OVERALL.......................60%

The bundled software is a respectable enough offering, but it's still not perfect. Once again, it looks pretty, but editing power leaves much to be desired. Unfortunately, because the sampler runs through the Amiga's expansion bus, you can't use something like AudioMaster 3 instead, so you are stuck with Datel's offering.



For such an expensive sampler, the sound quality of samples certainly doesn't justify the price. Even when sampling from a digital source, the samples were far from faithful. Admittedly, they're better than the Micro Sampler, but not much.



Sample Studio 2

Getting the most from your sampler

It's very tempting to blame the manufacturer when your sampler doesn't quite produce the perfect sample, but they aren't always to blame. Like it or not, you could be doing something wrong. With our guide to better sampling, you too can produce samples of the crispest quality.

SOUND SOURCES – You may think this is pretty obvious, but it's surprising how many people fall into this trap. The better the quality of your sound source, the better your samples will be. If you're sampling music, a CD source is the best you can get, but a high quality tape player is a good second best.

In the case of sampling real life sounds, a decent microphone is very, very important. Quite a few sampler manufacturers include microphones, but they are always useless – throw them in the bin immediately!

If you can afford it, pop down to your local hi-tech music equipment stockist and have a chat with the salesman. He'll be able to advise you on which microphone to buy. You may have to pay a fair bit for it, but you'll be amazed at the quality it will give you.

SAMPLING RATES – Everyone knows that the higher the sample rate, the better the sound quality, but there's more to it than this. Many samplers now offer sampling rates of up to 57 KHz, but virtually no music packages support such high rates – 29 KHz is about as high as things get.

If you do want to use samples within packages like Music-X, a good trick is to sample the sound at the highest rate and then use something like AudioMaster's Tune WaveForm function to knock the sampling rate down.

This usually results in a much higher quality output than you would have obtained if you had sampled the sound at that rate in the first place. Don't forget also that some sounds don't need to be sampled at high rates. Drums are a prime example.

Most drum sounds can be sampled pretty faithfully at around 10 KHz, although High Hats will need higher rates to capture those higher frequencies. As always though, experimentation is the key.

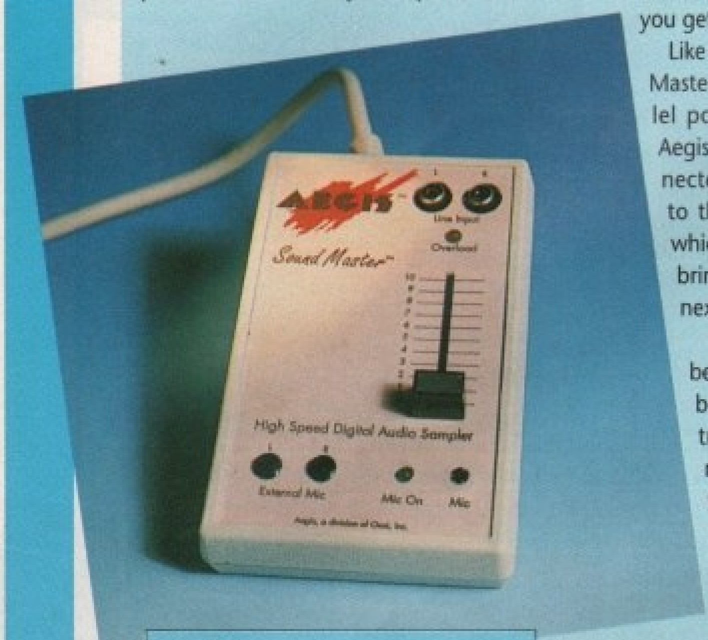
LEADS – It's all very well having a great sampler and a brilliant sound source, but you'll still get pathetic results, if you use a lousy lead to connect the two. Once again, a good professional sound lead is a must.

Considering their price – around £5 for 3m – you'd be a fool not to splash out. Not only that, but they usually come with pretty decent connectors, therefore ensuring that interference introduced to the audio signal is kept to a minimum.

Sound Master

£129.95 • HB Marketing • Tel: 0753 686000

If you'd like a sampler that can give Audio Engineer a run for its money, then Aegis' Sound Master could be what you're looking for. Not only does it include the award-winning AudioMaster 3 sample editing software, but it produces samples that are definitely on a par with its main rival. Once again it isn't cheap, but you get what you pay for.



Like most samplers, Sound Master connects to the parallel port of the Amiga, but Aegis have very kindly connected a metre-long cable to the sampling hardware which means that you can bring the sampler around next to your keyboard.

This is a necessity, because the unit includes both a sliding level control and even a built-in microphone – something that even Audio Engineer doesn't have!

As mentioned previously, the software bundled is none other than Audio Master 3, which is actually exactly the same program that comes with Audio Engineer. As a result, there's very little to separate the two samplers apart from the obvious price difference.

The Audio Engineer hardware has a few more features, such as a printer passthru, and is generally of higher build quality, but the two units perform almost identically.

Value

Features

Sound Quality

Software

OVERALL 95%

Micro Sampler

£24.99 • Datel Electronics • Tel: 0782 744324



OK, it's very cheap, but Datel's Micro Sampler is hardly going to win any prizes for sound quality. It's a very simple no-frills mono sampler that is about the size of a king-size cigarette packet. If you're totally and utterly skint, you may want to give it a whirl, but personally I'd prefer to save up a few more pennies for something like TechnoSound.

The bundled software is exactly the same as the software which used to accompany Datel's Pro Sample Studio, which has now ceased production. While it looks very nice, you'll soon come to realise that looks are about the only thing going for it. Editing is quirky and there are too many tools which can only be described as completely useless.

Most of the samplers tested are very closely matched where sound quality is concerned, but the sound quality of the Micro Sampler is awful. Even when used with AudioMaster 3 and Omega Projects' Sound Enhancer, samples came out muffled and very distorted. If you buy this, you only have yourself to blame!

Value

Features

Sound Quality

Software

OVERALL 52%

Sound investment

You've probably read previews of Omega Projects' Sound Enhancer in other publications, but we managed to get an exclusive peek at what could be one of the most important audio releases for a long time. The device, which claims to improve the Amiga's sound quality using some sophisticated filters, plugs in between the Amiga sound jacks and your hi-fi or monitor.

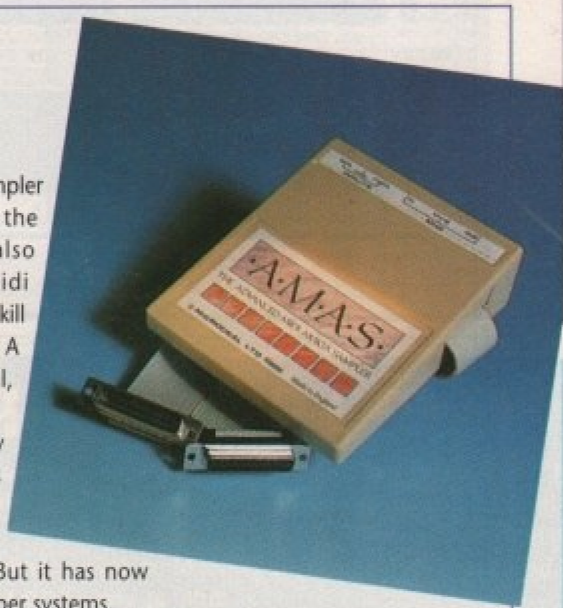
The Sound Enhancer improves the sound quality of just about any program, but is especially at home with samplers. Indeed, Omega originally designed the thing to work with their own Sound Trap sampler, but it works equally well with any other. The tiny box contains just two controllers – a proportional control knob which increases or decreases the unit's effect, and a little switch which turns the box on or off. The increase in sound quality is absolutely astounding. If you thought the Amiga's sound capabilities were pretty good anyway, you're in for a real shock. Even with the worst samplers I was able to grab stunning samples.

When used in conjunction with something like Audio Engineer, my samples were of professional quality – bass becomes much punchier and high frequencies were enhanced beyond belief.

For the £35 asking price, every Amiga owner should own the Sound Enhancer, especially if they also own a sound sampler. Once you've heard the Sound Enhancer for yourself, I can virtually guarantee that you'll want to buy one straight away. I'll be first in the queue!

AMAS

£99 • MicroDeal • Tel: 0726 68020



MicroDeal's "professional" sampler is quite unique in that it is the only Amiga sampler that also comes complete with a Midi interface. As a result, you can kill two birds with one stone. A shrewd move from MicroDeal, I'm sure you'll agree.

Unfortunately, AMAS really is starting to show its age. It's been available for a couple of years now, in which time it's sold very nicely thank you. But it has now been surpassed by much cheaper systems.

The sound quality isn't bad, but it's hardly going to give Audio Engineer a run for its money. Don't get me wrong, AMAS can still produce some very acceptable samples.

What really lets it down is the sampling software. It's restricted to producing samples no greater than 200k in size, arranged into a maximum of eight banks. Not only that, but the maximum sampling rate is only 28KHz.

Now you can see why AMAS has aged so much! But then again, if it's good enough for Paula Abdul – she uses one extensively – it should be good enough for anyone.

Value

Features

Sound Quality

Software

OVERALL 75%

Sound Trap 3

£29.95 (or £54.95 with AudioMaster2) • Omega Projects • Tel: 0925 762885

There's always one product that turns up too late to have its picture taken. As you can probably already guess, Sound Trap is the one. In a way, it's a great shame because it's the only budget sampler that not only offers a printer passthru connector, but is also fully compatible with all Amigas, including the A1000!

Omega do bundle sampling software with Sound Trap, but it's pretty dire – even they admit that. So, being a smart lot, they've bundled it up with Aegis' AudioMaster 2 (not 3) sample editing software at a reduced price. When used with AudioMaster 2, Sound Trap produces decent samples. In fact, they're some of the best I've heard from a budget sampler.

The only thing that really lets Sound Trap 3 down is its price. It may seem cheap at first, but you really do need to buy a copy of AudioMaster to get the most from it. This knocks the price up quite a bit, pushing it way above both TechnoSound and MasterSound.

Value

Features

Sound Quality

Software

OVERALL 70%

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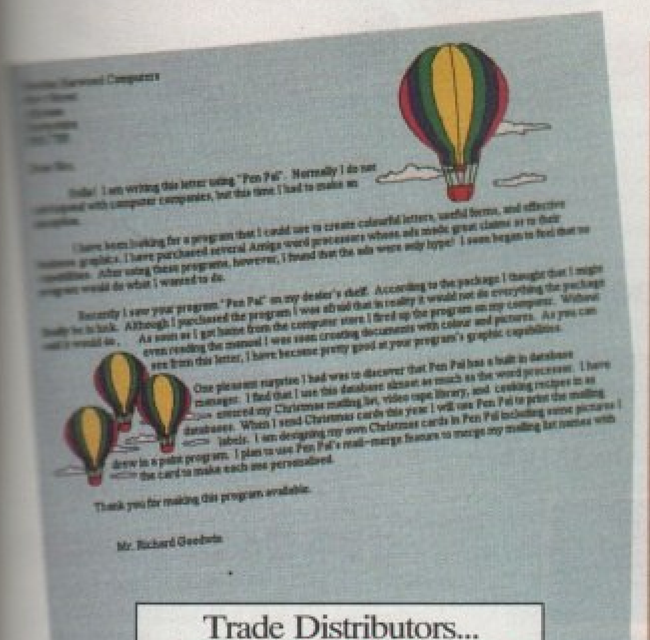
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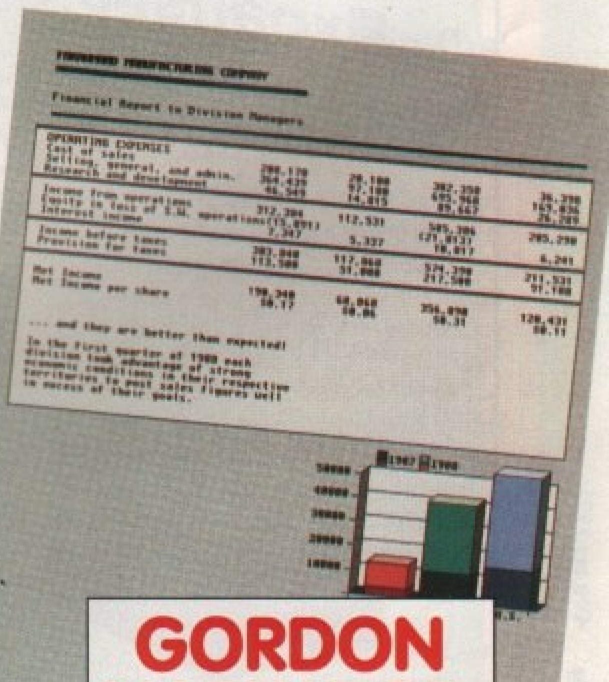
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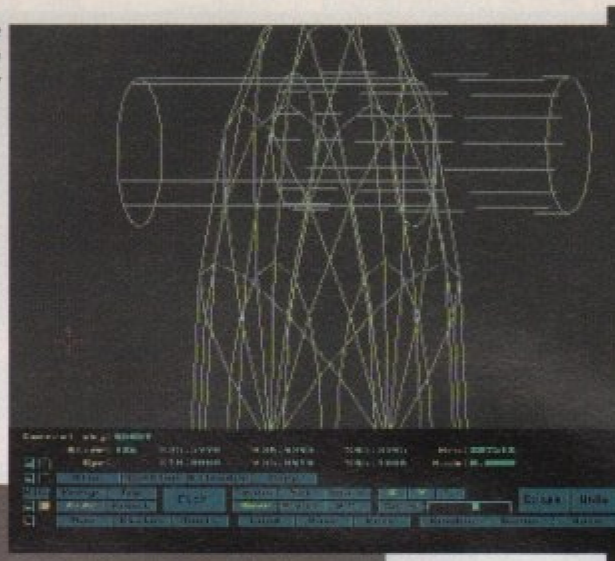
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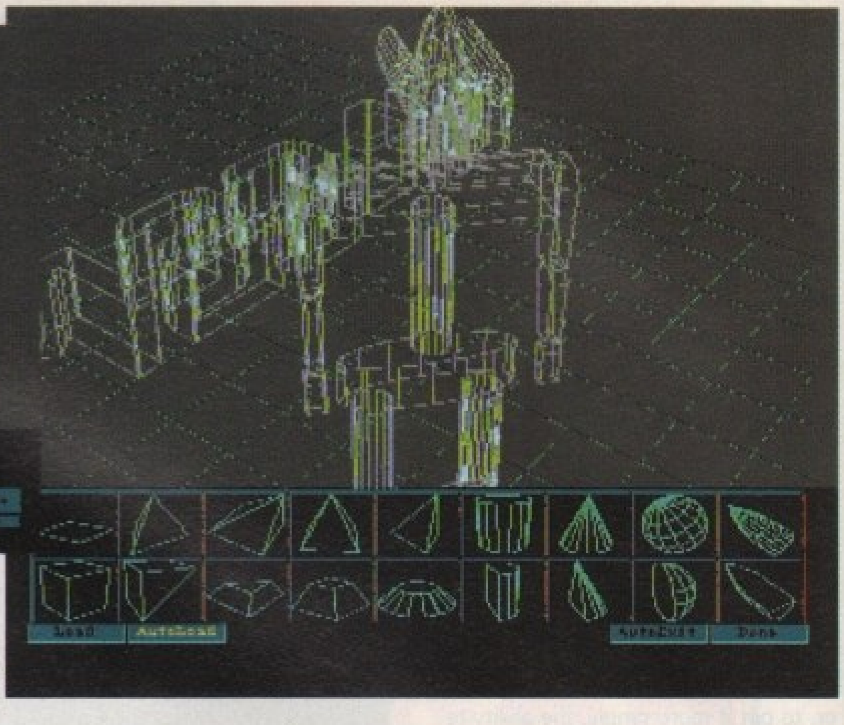
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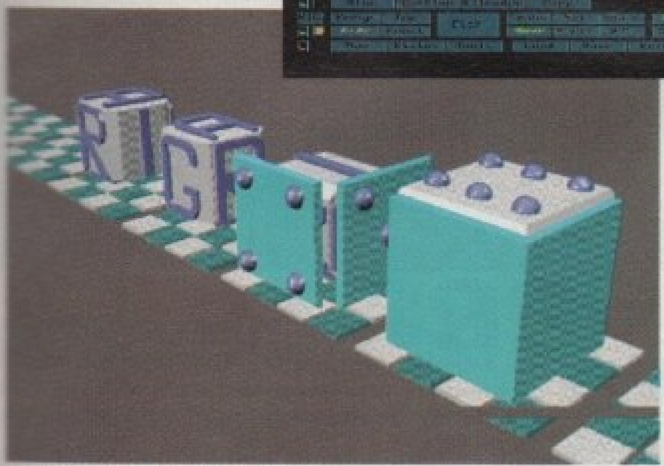
GORDON HARWOOD HARWOOD HARWOOD Computers

Close-ups in wireframe mode can give a high level of accuracy





A robot takes shape



Some of Caligari's sample rendering

It's CAD Jim but not as we know it!

Paul Austin beams down to render a few opinions on Caligari, the latest package in the operating system

Caligari is what many Amigans have been praying for, namely a CAD package that embraces the speed and power essential to a designer while retaining the aesthetics that only ray tracing can create.

In the past the choice was simple – either you went for the stunning but slow process of ray tracing or the speedy if less than stylish approach of the countless 3D Modelling packages.

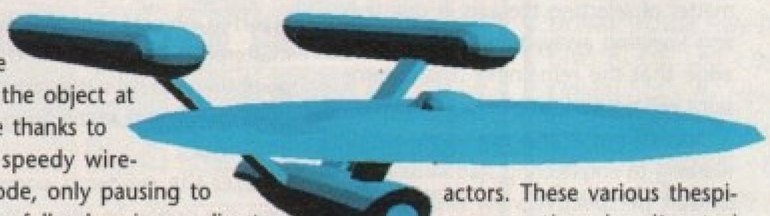
As you can see from the screen shots, Caligari not only offers design skills to match anything in the modelling world but also the artistic talents to challenge the much slower true ray tracers such as Sculpt, Real 3D and Imagine.

Evaluation Mr Spock

Caligari's primary mission is to provide a perfect representation of your three dimensional designs, so for the amateur it could mean the creation of a dream kitchen long before the first cabinet is cobbled together, or perhaps the design for that desperately needed extension.

The system can work with a predefined grid engineering design and it's even possible to type blueprint information direct for the plan, instantly transforming the confusion of two dimensions to the clarity of three.

Once complete, the image controls allow you to zoom in and orientate either the world or the object at any angle thanks to the very speedy wireframe mode, only pausing to snapshot a full colour image direct to disk or straight to a printer.



As well as its design talents, Caligari also offers impressive and flexible control over every element within the image, whether that be colour, lighting or material.

Perhaps the most important aspect of the program's flexibility is its handling of the objects themselves. Like many of the leading ray tracers, it employs heretical control. A good example of this would be the engines on Enterprise which were manipulated as one unit, stretching, sizing and orientating in unison, even though they're made up of several individual objects, all of which could still be isolated and edited separately as required.

Because of its artistic as well as engineering talents Caligari is perfect for presentation work, and this especially applies to the Broadcast version which supports a very powerful animation module. This allows the various elements within a scene to be assigned as actors. These various thespians can then be directed around the scene on predefined paths.

The individual players don't stop there as their component parts can also be assigned as joints. So, for example, a robot could have its arm and hand pivot in a friendly wave as a prospective client glides down the corridor of his or her virtual investment.

This heretical approach to movement also extends to the consumer version which doesn't support animation but still benefits from the option when designing still frames.

Analysis complete

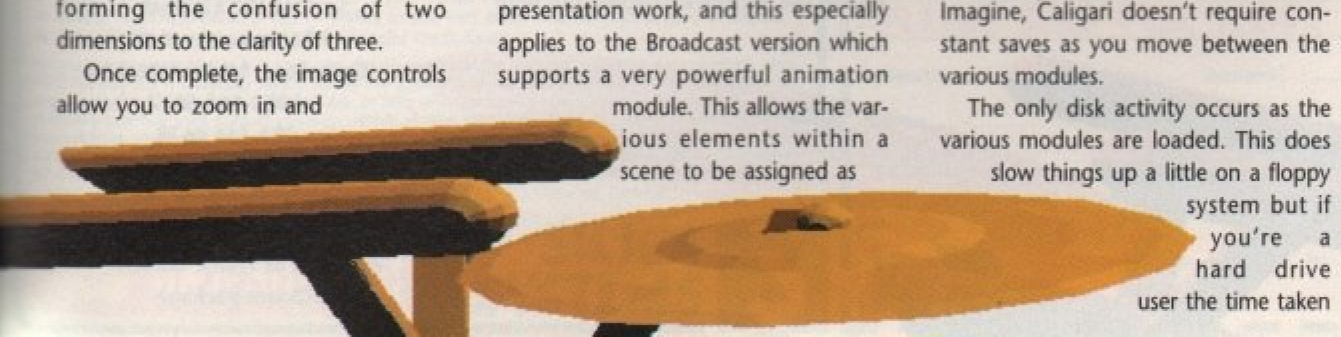
In many ways the Caligari interface is very similar to that of Imagine but with one huge improvement – unlike Imagine, Caligari doesn't require constant saves as you move between the various modules.

The only disk activity occurs as the various modules are loaded. This does slow things up a little on a floppy system but if you're a hard drive user the time taken is barely noticeable. On the consumer version of the program flitting between modules is restricted to the **Design** and **Scene** modules but on the broadcast version you have the added bonus of the **Anim** option.

For most of us movement will probably be restricted to that offered by the consumer version. As the names suggest the **Design** module is where most of the work takes place with occasional visits to the **Scene** option for lighting and occasional loads, saves and, of course, the vital final render.

The animation on the broadcast version isn't the only difference between the two, as the consumer version also lacks the point editing abilities of its big brother, not to mention the ability to render direct to a frame buffer.

Unfortunately, being without the aforementioned hardware, I can only quote the suppliers description of, *"Stunning"* in regard to the frame



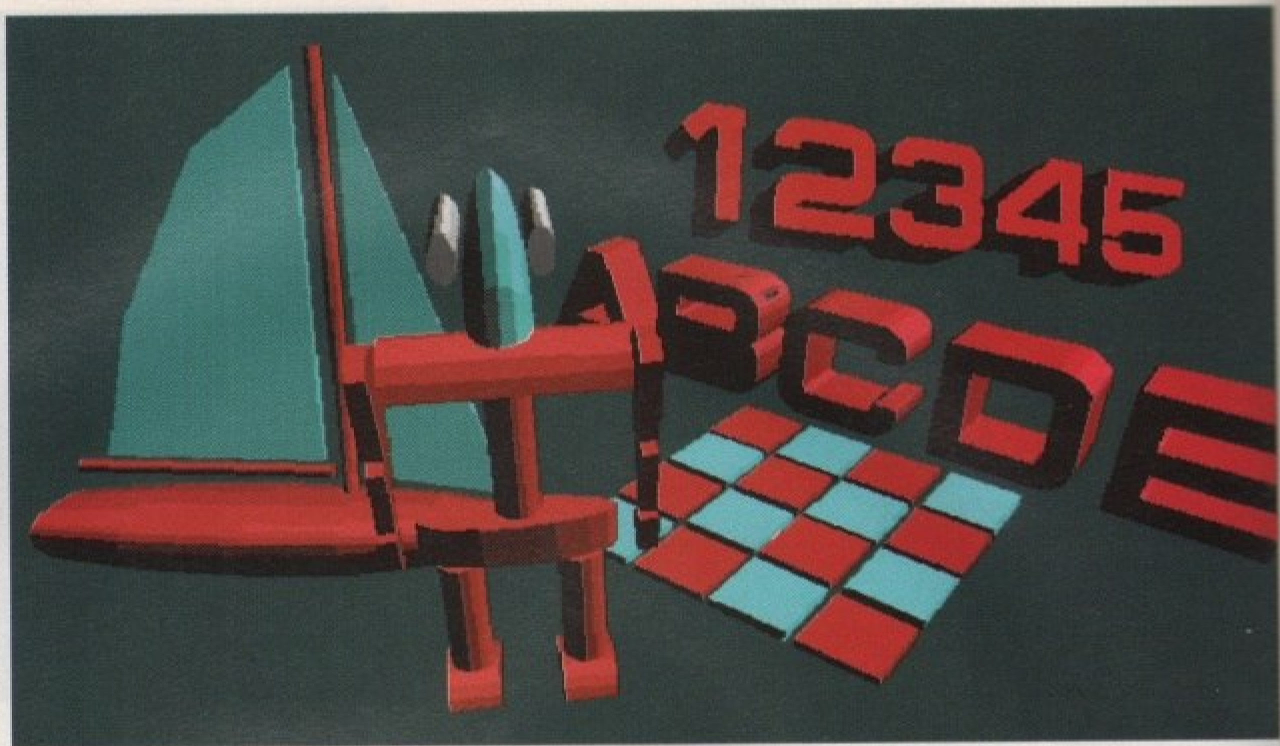
buffer output, which isn't totally unexpected considering the broadcast version retails at £1,500 as opposed to the £99 for the consumer variant.

The lack of point editing on the consumer version will no doubt cause a few problems as the ability to slice, sweep and select individual points does add a whole new dimension to the editing of the various primitives.

Having said that, the variety of standard prims on both versions should mean the majority of objects can be constructed from individual prims. This combined with the assistance of the Tools menu, which is present on both versions, should make life a little easier if you're struggling with a particularly tricky bit of modelling.

The various tools allow objects to be glued, un-glued, copied and, perhaps most importantly, extruded. Extrusion or, to put it more simply, the ability to hand draw your own objects in two dimensions and then sweep them into the third means that almost any shape is possible, the only real limit being your imagination.

Once your object is complete placement is the next obstacle but thanks to the best mouse driven interface I've yet had the pleasure to use this is simplicity itself. When arranging an object you have the option to either manipulate the viewpoint or the object.



Complex scenes can be constructed fairly easily

Perfect position

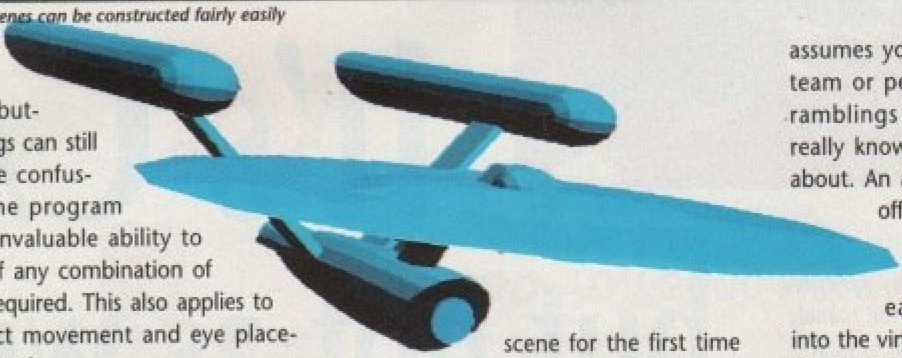
To achieve this the stacking menu system displays the various environmental movement controls which vary the effect of the mouse from working in relation to either the plane of the object or that of the world in which it's placed. Switching between the two allows you to position the view point to perfection.

Once you're happy with your particular view of the scene a single mouse click transfers the mouse movement into that of the object itself. Again, you have the option to move the object relative to its own axis or that of the environment, placing it either by eye or by the user defined grid reference system.

Now you and your object are in the perfect position the next task is to orientate the object itself. This again is done by the trusty rodent. One click on the rotation button and the selected shape spins in any or all of the three dimensions while remaining stationary on the predefined spot.

As you can imagine, controlling a three dimensional spinning object with a strictly two dimensional mouse isn't always an easy task, so one of the axes is assigned to the right button while the remaining two are controlled by the left.

Even when control is split between the two buttons things can still be a little confusing so the program has the invaluable ability to switch off any combination of axes as required. This also applies to the object movement and eye placement controls.



So if you merely want to lower an object into a particular spot it's a simple matter of selecting the axis in question and lowering away, safe in the knowledge that the remaining two dimensions will remain completely static.

Sometimes – and especially when working to engineering standards – the default perspective view isn't always enough. As a result a separate view from each of the three elevations can be accessed. All these views can be individually positioned and zoomed in and out of as required.

Object onscreen

When the three orthographic views are combined with the perspective, placement of the subject can be done to an accuracy of four decimal points and, of course, if your hand and eye co-ordination isn't quite steady enough for such work you can always employ the definable Gridlock option to do it for you.

Assuming you and your masterpiece are in perfect position and you've had a trip to the scene module to adjust the lighting, it's time to render your creation. When rendering an object or scene for the first time there is a pause of almost ray tracing proportions while the calculations are made for light and the assorted objects, but eventually your masterpiece will appear and it's at this point that you have the added bonus of making the most of the Amiga's colourful talents.

After the render is complete you have the option to either return to the wireframe, save the image or proceed on to the colour control menu which allows you to adjust the colour of individual elements within the image or entire groups.

This section works in the same way to that of heretical options in the wireframe which allows you to cycle through the individual parts within an object and select separate elements for editing. Once the colour editing is complete the scene can be re-rendered in a fraction of the original time and the product saved or printed as required.

In general the manuals are excellent apart from the occasional passage such as the Point Editing section within the broadcast version which is completely dreadful.

This particular section has to be either the product of someone who assumes you were part of the design team or perhaps more likely it's the ramblings of an author who didn't really know what he was waffling on about. An added bonus to the tuition offered by the manuals is the Caligari tutorial video which does a good job of easing you and your ideas into the virtual world with a few examples of just what this extremely powerful program is capable of.

Captain's log

On the down side my only real moans concern the lack of any boolean operations which would allow objects to be used as tools on others, cutting and slicing as required.

My only other concern is the lack of interaction between Caligari and other programs. At present Videoscape is the only program which can share its output with Caligari but I'm assured future revisions do plan to embrace other packages.

As you can tell from my commentary, I'm impressed, and if you're looking for a way to combine the graphic talents of your Amiga with the power of an excellent CAD package, Caligari has to figure very high on the list of your potential purchases.

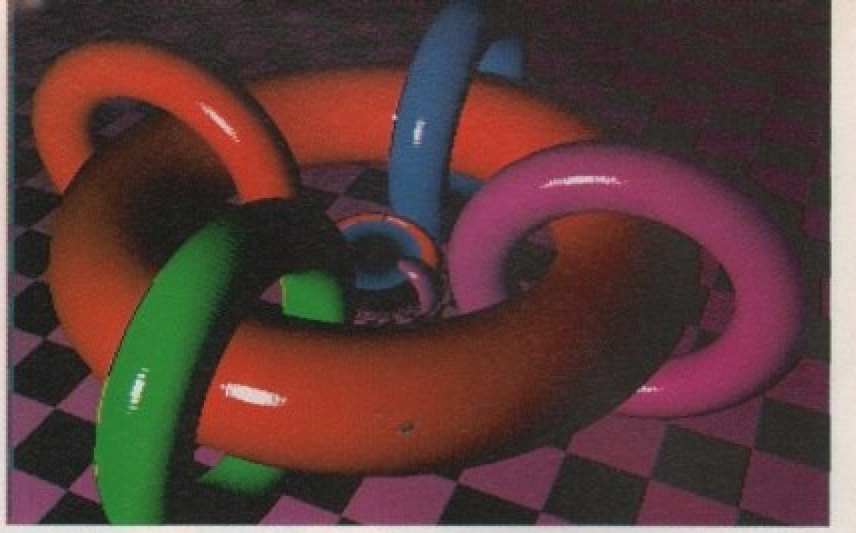
I'm sure we'll all see a lot more of this particular product in everything from engineering design to TV animation. I highly recommend it.



Caligari is available from:
Surface UK Limited
5 Rockware Avenue
Greenford, Middx UB6 0AA
Tel 081-566 6677
Fax 081-566 6678
Caligari Consumer £99.95
Caligari Broadcast £1,500
Broadcast version soon to be available as Frame buffer/ Software package

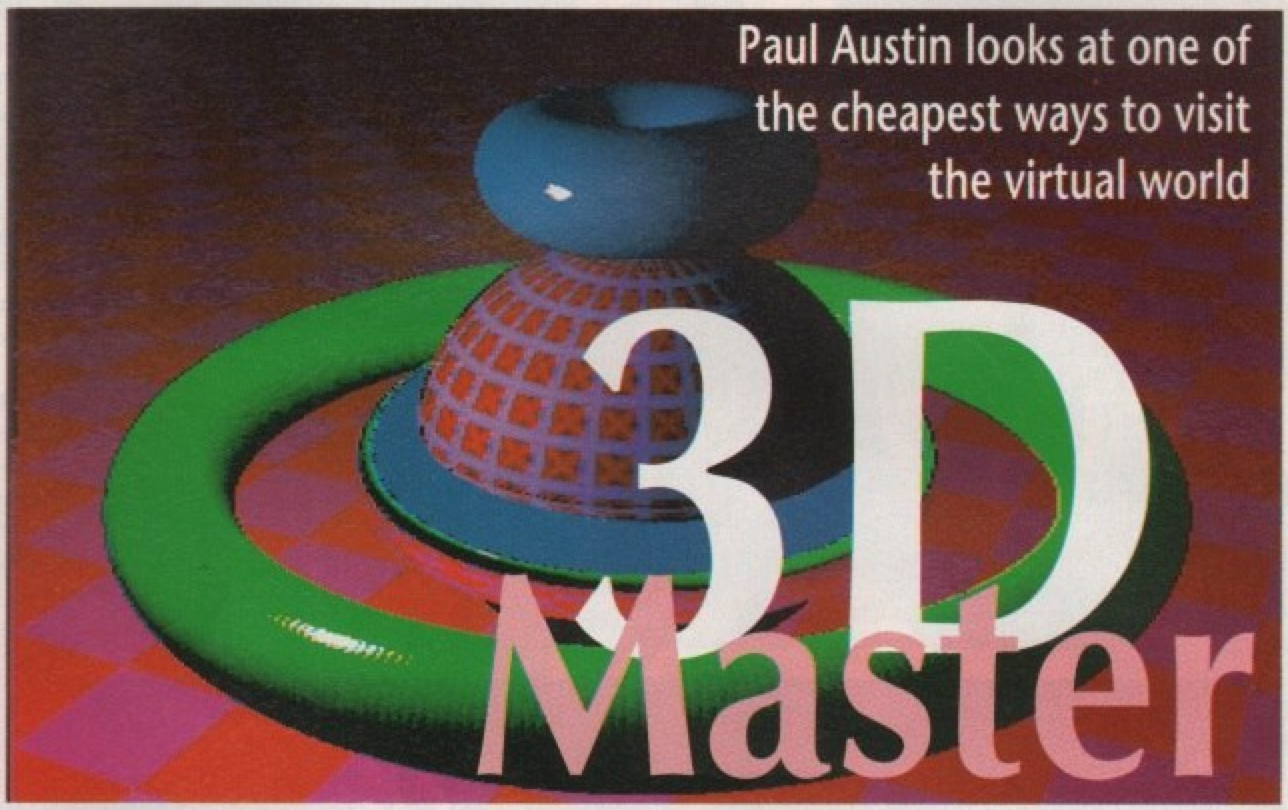


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3D Master

Paul Austin looks at one of the cheapest ways to visit the virtual world



After last month's amazing Real 3D giveaway there's no doubt many of you are drooling at the wallet just waiting for an affordable, not to mention save-enabled way of reaching into the next dimension.

3D Master is the latest and by far the best of cheap ray tracers. Even though it's relatively inexpensive it nevertheless offers a very reasonable array of features, some of which are unequalled by even such illustrious names as Sculpt.

Unlike many other pretenders to the cheap ray tracing throne, 3D Master offers an interface that puts all the program controls and requesters at the mercy of the mouse while still offering a complete range of hot keys for the experts.

The design of the interface is excellent, being fast, logical and easy to use, but having said that I doubt whether it will be long before you, like me, become a hot key fanatic.

Even though the interface is excellent there is a subtle but nevertheless definable difference between 3D Master and some other interface-based programs.

3D Master stands somewhere between old-style software which wouldn't consider something as amateur as an interface and the new friendly face of ray tracing which will do absolutely everything without ever leaving your furless friend.

Even though all major events happen in tasteful requesters there's still the need for constant coordinates which determine everything from the size and shape of the object right through to the positioning of lights and their direction.

Fear not

For anyone with a pathological fear of X,Y,Z coordinates this won't be welcome news but believe me it isn't that bad and that's a quote direct from a dedicated Real 3D fan.

On occasion some of the requesters will leave even an enthusiast a little puzzled but this really only applies to the more complex shapes and requesters such as spirals.

In most cases the various primitives such as spheres and boxes will do the job, with sizing and placement being a simple matter of typing in three sets of coordinates for each. Although the X,Y,Z format can be confusing and occasionally time consuming the speedy rendering of "work in progress" plus the option for various screen formats and resolutions does make up for the tedium of typing.

Overview is perhaps the perfect way to describe 3D's view of the world. Like Calagari, which you'll find elsewhere in this issue of *Amiga Computing*, 3D looks at its little portion of space from a definable point which is suspended above a matrix depicting the surface of your creation.

Moving and examining your work is a simple matter of hitting the odd hot key to scroll in all directions, zooming in and out as required. It's true the lack of an orthorgraphic or three way view does make accurate placement a little tricky but considering 3D Master is more of an artistic tracer than an exercise in engineering it shouldn't cause too much upset.

All the essential environmental controls are there, allowing everything from complete control of the palette to the intensity of light sources.

Like Sculpt, there are various options for ground design ranging from the familiar chequered effect to the less common polka dot. Even a user defined floor space can be imported from your favourite paint package.

The last reference to importation leads nicely on to 3D's mapping talents which although limited do something which Sculpt can't manage, namely texture mapping any image on to elements within your creation.

The mapping works well, although it's impossible to make any adjustments to the way the image is mapped. The second and perhaps most important point is that only one type of map can be applied within each image.

The mapping process takes place thanks to a single image loaded in as a picture. Once loaded the program looks here for the texture which it then applies to every object which has its map option set.

Summary

As mentioned earlier, 3D is perhaps the premier cheap ray tracer but it does take more work than the average point and click package. Having said that it's quite fun learning the art the old fashioned way, so try not to be put off by a bit of typing.

As you can see from the screen shots the results can be impressive, if perhaps a little predictable. This tendency for spheres, spirals and countless curves is due mostly to the lack of tools and the limited number of primitives. Both these points lead to a rather surreal landscape rather than the representations of the real world which more complex products can produce.

Image quality is generally impressive apart from the the occasional case of the *jaggies* which can give the edges of objects a very blocky appearance. This is due to the lack of anti-aliasing within the rendering engine and can only be cured by upgrading to products such as Imagine or, of course, Real 3D.

The only other complaint is the speed of rendering, which is fine while at work on individual objects but suffers badly when rendering full screens, so be prepared to leave your Amiga working through the twilight hours while you dream up your next design.

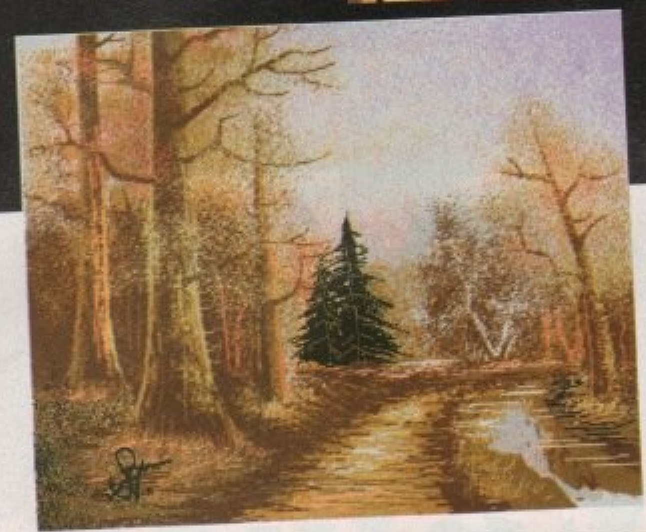
If you're looking for a solid first step on the ray tracing ladder 3D Master has to be a good place to start, providing all the essentials, with the odd extra thrown in for good measure.

3D Master is available from
Senlac software, Unit 6
West Hill Arcade
George Street, Hastings
East Sussex TN34 3AN
Tel 0424 445498
Price £35.00





Backdraft by S Turner



GRADI by S Turner

Enter the Gallery

After last month's amazing Real 3D give-away *Amiga Computing's* art department is bracing itself for the tide of ray tracing that's about to flood in – thanks to the bulging mail-bags of many a bow-legged postie.

As if Real isn't inspiration enough, we're still offering a print quality, framed chromalin to the hero of this month's artistic extravaganza. Of course, next month's frame is just waiting for your latest creation, whether it be ray traced or the product of the paint package of your choice.

The incentive of recent Gallery giveaways and our framed chromalin has done wonders for both the quantity and quality of artistic submissions, so join what is the state of the art on the Amiga and post your latest masterpiece today.

To avoid any confusion, please write your full name and address on the disk and remember to title your work. After all *Pic.1* isn't really a very awe-inspiring title for the work of a genius, is it?





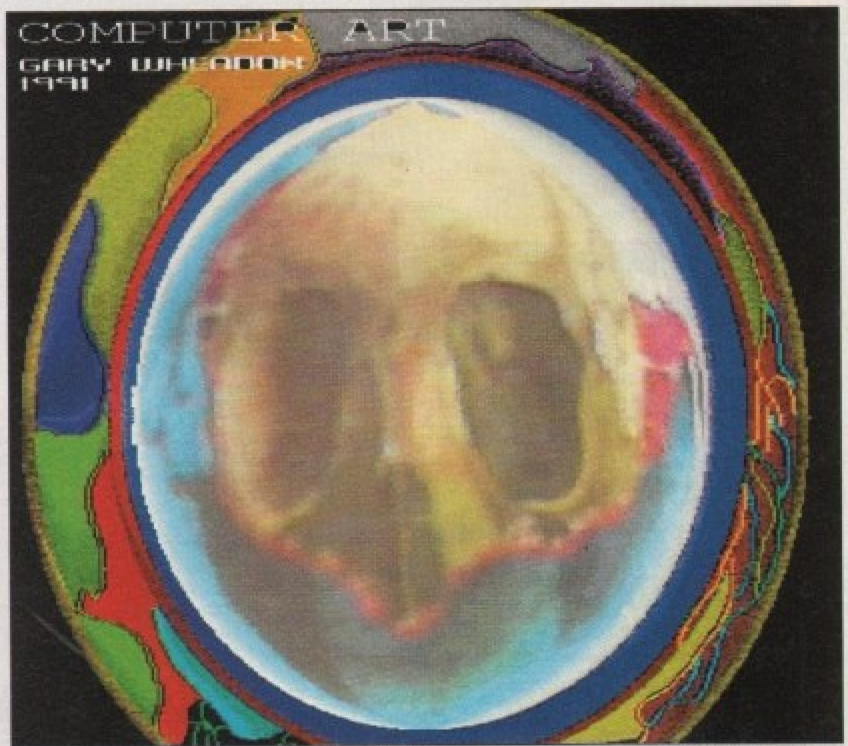
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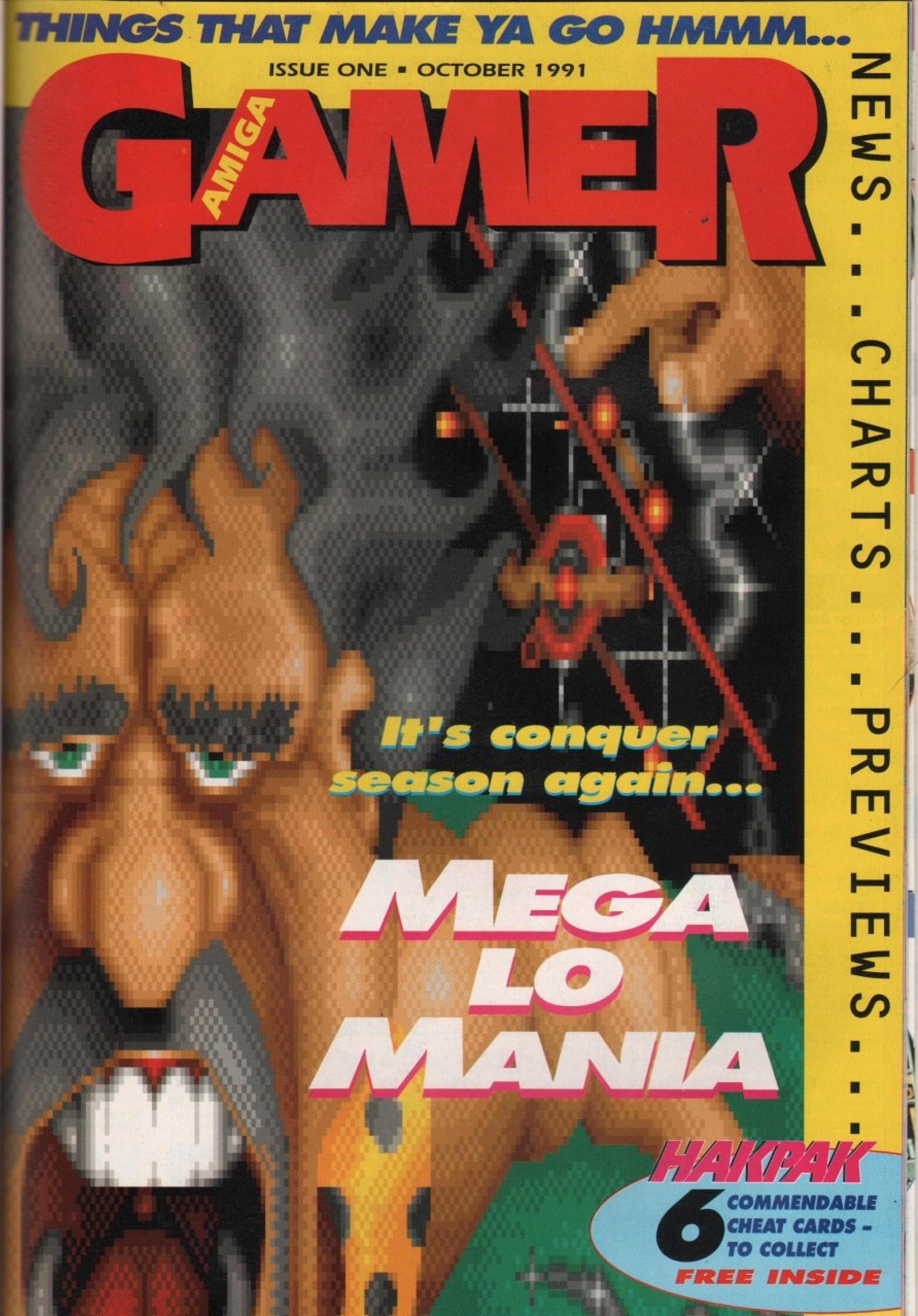
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Space 1889: Discover a recreated solar system as envisioned by the scientific theories of the 19th Century and in the imaginations of such classic writers as Jules Verne, A. Conan Doyle and H.G. Wells. Written by the same team as the critically acclaimed 'MEGATRAVELLER 1'

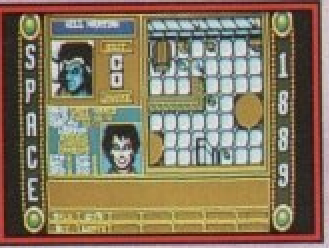


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- Overcome corrupt German conspirators, a radical Martian religious cult and the awesome intelligence of an advanced alien society that has escaped notice for thousands of years.



WEAPONRY

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PROFICIENCY

- Create five characters, male or female, from among six attributes and 24 skills, including Fisticuffs, Crime, Theatrics and Engineering. Control character development through a wide variety of careers.



HISTORICAL ADVENTURE

- Over 100 locations to explore on Earth alone - all depicted with historical accuracy and fascinating details. Including London, New York, San Francisco, the Far East and the Valley of the Kings.

TACTICS

- Realistic combat sequences let you control each character individually, while still giving general orders to the others.

VERSATILITY

- Meet and interact with over 500 unique characters, each with distinct personalities.

MEGATRAVELLER 1



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AMIGA COMPUTING
Brilliantly balanced between complexity and playability - MegaTraveller 1's gameplay is a miracle..."The best RPG/Adventure game of the year."

CU AMIGA
A fantastic RPG with loads of puzzles.

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I can't think of any role-playing game which has the depth and richness of what's going on.

GAMESMAN
This game is truly, uncategorically "Mega!"

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A quantum leap for sci-fi RPG's.

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"A triumph of intelligent game design."

THE ONE
No other computerised RPG comes as close to being an accurate conversion as MegaTraveller 1.

GEN 4
MegaTraveller 1 is THE Game of Today...

AMIGA POWER
"Terrifying depth, friendly and helpful controls, great atmosphere, excellent balance of strategy and action. A wonderful piece of role playing software that everyone should play."

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GAMER

innerVISION

Welcome to a new concept in Amiga games coverage...

REVIEWS

FAST • FRANK • FAIR

REGULARS

ONwords

What's hot and what's not. Jason Holborn spills the beans on the latest from the Amiga games scene

Greetings and salutations. Welcome to the inaugural issue of Ga a completely new concept in games coverage, but then so was P boy. This 32 page full-colour supplement aims to complement the c erage of the latest hardware and serious software in the rest of t magazine by keeping you up to date with the essential games rel es of the month, what to look out for and what to avoid like a pa ularly promiscuous plague.

We have devised an entirely new ratings system that will give y an in depth score to back up the opinions in the text of our reviews.

The system covers four essential areas all marked out of five Ga Gongs. Vision: does the game put you in mind of the Cistine Cha or a chicken liver? Audio: Are we talking about a Nigel Kennedy exp rience or something far more enjoyable? Playability: Do phrases l "Fun" and "Easy to use" spring to mind or is it more "Oh my, oh m this really is far too difficult"? And finally, Addiction: Would y rather be monitoring Open University fashion than playing th game?

To back up the marks out of five we then give an overall percen age, the established and accepted method of marking games, but w have brought it up to date by using the Gamer Gongs.

Not only do we have reviews but we have Onwards, the monthl news and previews section brings you all the bits of up to the minut game info that you can bore you friends with at parties. On top of a this we have plans for two occasional features: The Source, giving th low-down on a software companies' upcoming releases; and Face 2 Face, interviews with programmers, minor celebs, and anyone else who fancied being interviewed when we need to fill pages. In short, a complete mini-magazine for the AMC reader looking for definitive game coverage.

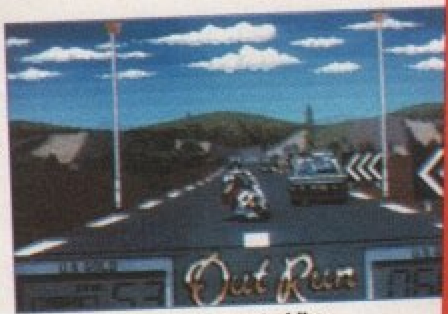
To cap it all we are giving away the Hakpaks, your definitive filo-fax sized cheat, tip, and password guide to all those games lying around your cupboard that you couldn't finish. "Generous" does not begin to capture the nature of the Gamer staff.

You're going to love it! Jools.

OUTRUN EUROPA – US Gold

US Gold are a busy lot. Not content with having produced two Outrun games, they're currently putting the finishing touches to a third. As the name suggests, the action has swapped from the wide open roads of the good old US of A to the bumpy and winding roads of good old Europe.

The scenery isn't the only thing that has changed, however. The Ferrari has seen some action, so you've got some extra transport to help you travel across beautiful Europe. Of course, the Ferrari F40 is still parked on your driveway, but you also have access to a very swish



First level opens with a motorbike

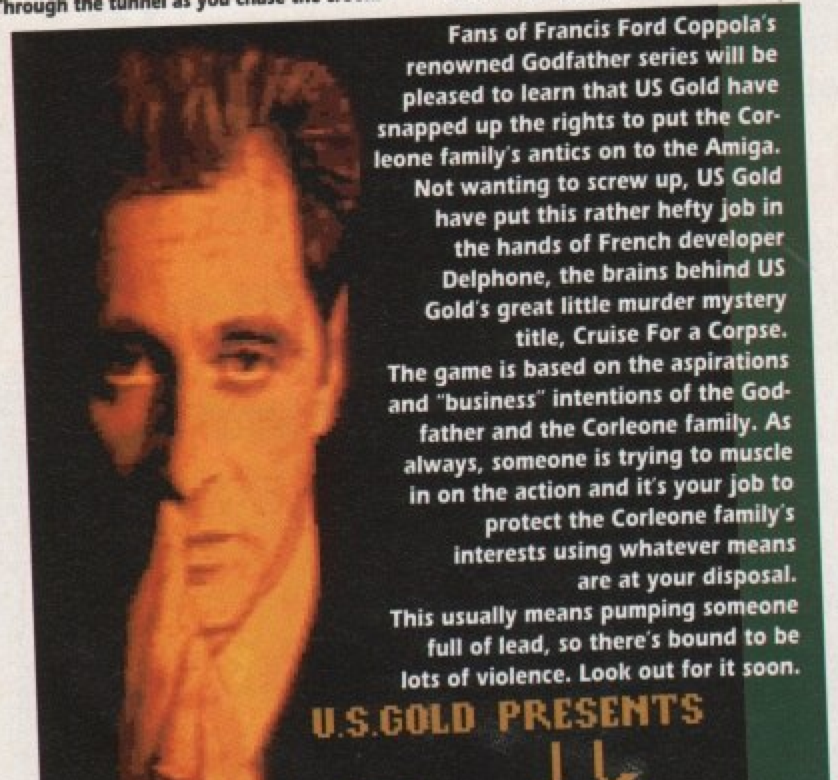
Porsche 911 and even a Yamaha Grand Prix bike.

Ferry crossings are rather expensive these days, so you can make the crossing yourself using a choice of either a high powered jet ski or a turbo-charged speed boat.

It isn't all plain sailing, however. Not only must you keep your eyes open for the local police and secret agents, but you also have those infamous French motorist to contend with. These chaps alone can reduce even the most experienced driver to tears – just ask anyone who's taken a holiday in France! Look out for it in September.



Through the tunnel as you chase the crooks



Fans of Francis Ford Coppola's renowned Godfather series will be pleased to learn that US Gold have snapped up the rights to put the Corleone family's antics on to the Amiga. Not wanting to screw up, US Gold have put this rather hefty job in the hands of French developer Delphone, the brains behind US Gold's great little murder mystery title, Cruise For a Corpse.

The game is based on the aspirations and "business" intentions of the Godfather and the Corleone family. As always, someone is trying to muscle in on the action and it's your job to protect the Corleone family's interests using whatever means are at your disposal.

This usually means pumping someone full of lead, so there's bound to be lots of violence. Look out for it soon.

ROBIN HOOD – Millennium

Millennium are a clever lot. They claim that the game system for their new Robin Hood game has been in development for over seven years now and whaddya know, it's being released just in time for the release of the movie of the same name, starring Kevin Costner.

This fact alone should ensure that it does very nicely thank you, but Millennium claim that the game is good enough to sell on its own. Hmmm, I think I'll reserve judgement until the game is released in October.

FINAL BLOW – Storm

If your idea of fun is punching som poor chap senseless, then Storm's lates could be for you. Based on Taito's bri liant arcade machine, the game allow you to slog it out in the boxing ring against 10 of the toughest fighters in the world.

Using almost full screen sprites, the action is so hot that even Mike Tyso would probably throw in the towel. I all this has you punch drunk wit excitement, you can check it out in September.

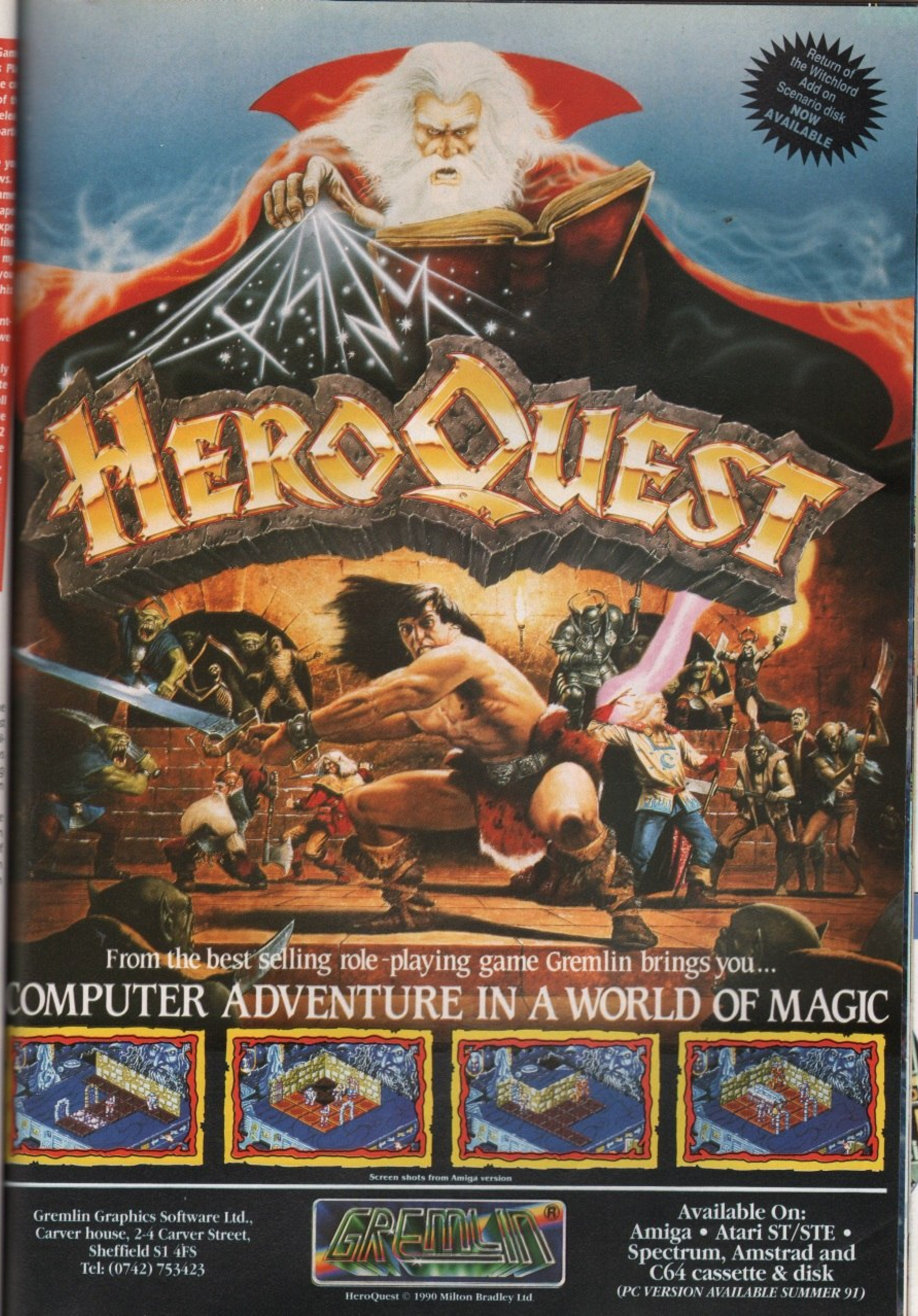
BONANZA BROS – US GOLD

Fans of Sega's fun little arcade romp The Bonanza Brothers will be pleased to learn that Mobo and Robo will be making an appearance on the Amiga very soon. These two unlikely characters have been hired to test the security system of a famous TV star.

Mobo and Robo must infiltrate a number of high security buildings, collecting evidence which will show up flaws in the TV Star's security system. This certainly isn't going to be an easy job, though. Standing between Mobo and Robo and their reward money is a vast range o high-technology traps and alarm systems which could catch even the most careful of criminals. Look out for it in late November.



Upstairs, Downstairs revisited



Return of the Witchlord Add on Scenario disk NOW AVAILABLE
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(PC VERSION AVAILABLE SUMMER 91)

ONword
...continued



Plan Nine From Outer Space – Gremlin

Gremlin have lost the plot, official! In a fit of unbridled socialism – there can be no other reason for throwing this sort of money away – Gremlin have thrown caution, and a fair chunk of their profits to the wind and bought the licence to the worst film ever made.

They claim to have spent, ooh, minutes in negotiations and fought off stiff competition from someone they just can't quite remember in the race to sign up this, erm, title.

The game follows the plot of the original film, in which an alien race, having failed in their attempts to invade eight times previously, hit on the ingenious(ish) plan nine.

This cunning plan involves reanimating the corpses of the recently deceased humans and guiding them by remote control to wander around the towns and cities with their arms outstretched looking upset.

Featuring over 50 digitized sequences from the film, and programmed by Pixel Productions, formerly with Cinemaware – they must be desperate – it will be released with the least amount of fuss possible in early 1992.



Super Space Invaders – Domark

1979AD. The world would never be the same again. The western wo[rld] was invaded by six foot tall machines with a pixellated gorilla on th[e] side. Never again would you be able to enjoy a decent pint without hea[r]ing those immortal sound effects: "Dum, dum. Dum, dum. Dum, Dum".

Well Space Invaders is back. Super Space Invaders from Domark ha[s] updated the classic that started it all, bringing in power ups, end-of-lev[el] mega-guardians and brand new attack formations that look set to brin[g] the mother of all arcade machines bang up to date in your living room.

Super Space Invaders will be available from Domark in October a[t] £24.99. Look out for it.

G-LOC – US GOLD

Bandits at 3 o'clock! There's a sidewinder on our tail... launch flares before we end up as toast!

Yes folks, it's time to disengage the brain and plug in the adrenalin drip for US Gold's conversion of one of the hottest arcade shoot-'em-ups since Afterburner.

US Gold certainly have their work cut out for them if G-Loc is to convert to the Amiga and still remain totally playable. Activision tried their best with Afterburner but the results were far from satisfactory.

Let's just hope that US Gold can do a better job.

Grand Prix – Microprose

Billed as a Formula One simulation, Microprose's Grand Prix brings to the small screen 16 "accurately mapped" 1991 Grand Prix tracks and 26 cars from all the well known teams.

Each car will be carrying the colours of its team, from Ligier to Maclaren and Williams, and all will start the season by driving the way they drove in the 1990 season – won't be seeing much of Mansell then.

The game, programmed by Geoff Crammond of Revs and Stunt Car Racer fame, features four difficulty levels, manual gear boxes, (wooohl!), all the fun of a pit stop and much, much more. I should hope so too, because when it gets released in November Microprose will be charging a wopping £34.99.

Silent Service II – Microprose



The original received more accolades than you could shake an Oscar at in 1986. The sequel appeared on the PC nearly a year ago and now you folks out there in Amigaland can finally enjoy the thrill that is Silent Service II. Ahem.

The new missions include trying to sink a massive Japanese aircraft carrier in the harbour, and controlling a German U-boat in the South Pacific which is trying to sink Allied shipping. There will also be a campaign-style scenario which allows you to develop a career as a submarine commander.

The ships and submarines will be represented by digitized photos of the real thing taken from 24 angles. There should be no angle left unturned.

It will be released this month priced at £35.75.



Doctor Devious, misunderstood scientist or just an old square?

Devious Designs – Imageworks

Dr Devious is a world renowned abstract scientist (what does he do, use polka dot chemicals?) but he has gone slightly mad. Well, he's gone very mad actually but who's counting?

The problem is that Dr Devious is very inspired by the art from Picasso's Cubist period, and his mad genius has developed a machine than can turn the world into a Cubist representation of itself.

But first he has to practise, and to do so he chooses well known monuments and easily recognizable objects from around the world and turns them into Cubist abstracts.

But one man can save the world: J J Maverick. Only he, under your control, can save the world from a fate worse than Rubik.

You must restore the world's monuments and everyday objects to their former glory.

This fast moving puzzle game will be released in October at £25.99.

WANTED

BRAVE ADVENTURERS

NO PREVIOUS EXPERIENCE NECESSARY

If you've ever pictured yourself as a Brave Adventurer but have been put off by the complexity of Role Playing Adventures this is the game for you.

Shadow Sorcerer has all the excitement and intrigue of AD&D®'s more complex adventures and also features the following "gamer friendly" innovations:

Shadow Sorcerer

- *100% "point 'n' click" icon control (no laborious typing).*
- *3D isometric play area giving you more control on the playing environment.*
- *Control up to 4 characters in a life or death struggle against evil.*
- *Hexagonal grid map aids strategic planning.*
- *Combat action adventure.*

This new concept in role playing adventures means that in minutes you could be confronting the Shadow Sorcerer, the down side is that within minutes you could also be dead!!



Screen shots are only intended to be illustrative of the game play and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

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DragonLance®

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Return of the towering infernals

NEBULUS 2

21st CENTURY ENTERTAINMENT • £24.99 • 1/2 meg • Joystick • Out now

There are many pills and potions which claim to be able to cure baldness. Strangely enough, there has never been a product which can actually accelerate baldness. Until now.

Simply play Nebulus 2 for a few hours and marvel as you tear huge chunks of hair from your scalp in frustration. That's right, Nebulus 2 is a platform game, and quite a nippy little number it is too.

We've all seen platform games before. Ever since Chuckie Egg flickered on to the screens of the BBC we've been inundated with them. Spacemen, miners, moles and hedgehogs have all appeared on our screens, and all had one thing in common: an uncontrollable urge to jump on to any horizontal surface with a merry beep. Pogo also suffers from this affliction, which is just as well – after all, it'd be a pretty boring game if he didn't.

As in the original Nebulus, Pogo must make his way to the top of the slowly rotating towers and claim them back from the evil Uncle. Scary name, huh? Once he has achieved this, he has to make his way back down again to repair all the damage inflicted by that nasty ol' Unc.

Then he hops into a waiting chopper (settle down at the back) and flies off to the next tower, via the obligatory bonus level. There are eight towers, but as you have to go up them, then down, it's really more like 16. Now I may be being picky, but if you had to rescue 16 towers from a multitude of nefarious monsters, wouldn't you choose someone a little more, well, macho? Apparently not. The blokes in charge want Pogo, a small green blob with no arms. Who are we to argue? It wouldn't be Nebulus 2 otherwise would it? Which leads us, in a roundabo
way, to the game.

For those who are familiar with th
first Nebulus, it's similar to that. So g
away and have a quick game while
explain the concept to whoever's left.

OK, imagine your standard platfor
game. Now take the platforms and wra
them round a tower. Add some tunne
from one side of the tower to the othe
and sprinkle liberally with nasties an
traps, and that's basically Nebulus. Yo
can make a model using a toilet roll an
a Cornflakes packet if it makes it an
clearer, but get a responsible adult t
help.

Now, the rest of you can stop playin
Nebulus and come back. From here o
things are different. This time Pogo ge
various power-ups to help him along.

Not really weapons as such, thes
bonus items are picked up from parce
along the way and bless Pogo with suc
essentials as a jet pack which rocke
him round the tower killing everythin
in his way; magnets to lift him up to cer-
tain platforms; the spookily named A
Seeing Eye which allows Pogo to have a
peek at what lies in store; jumping boot
which have Air Jordan-style soles to give
that extra boost; and matter transporter
which can teleport Pogo from one pa
to another.

Also available are keys which, believ
it or not, open locked doors. These icons
add a much needed element of strategy
to the game as they are hard to find and
often essential to your progress.

This is what lifts Pogo-A-Go-Go above
the morass of current platformers.
There's always a way out of a fix, it jus
depends on careful selection and use o
icons.

Nebulus 2 has been resurrected fron
the ashes of Hewson Software by Infer
nal Byte Systems and 21st Centur
Entertainment. They've stayed clos
enough to the original for it to be fun t



Pick a tower – any tower



Would you buy a used pair of space boots from this man?



This pig travels in style on a tower lift



roundabou

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Take your pick – have a swim or a shave



▲ Life has its ups and downs in Nebulus 2 ▼



It's tough at the top



GAMER GOLD

play, but altered the gameplay to make it a little bit more 90s.

The graphics are clear and colourful with plenty of variety. All manner of weird and wonderful creatures inhabit the towers and no two towers are ever alike. On top of that there's a neat little picture of Uncle on the front end, getting more and more irate as you progress further through the game.

It's nice to see that the scrolling of the towers is beautifully fluid, as in the first game, which helps to make the game a little easier on the eye.

The sound is bright and chirpy, with some atmospheric howling winds the higher you go. The tune at the beginning is unremarkable but quite adequate given the quality of the sound effects. The lifts clank and creak, the magnets hum and give off metallic clangs when they hit a platform and the jet pack roars in a satisfyingly jet pack-like way.

But where Nebulus 2 really scores well is in the gameplay stakes. It's fiendishly difficult, but a password system means that you needn't go through all the levels every time you play.

There's also an option to play only the "up" towers, only "down" towers or all the towers, which gives you a chance to at least try other levels apart from level one. However, be warned, before you begin playing pop out and buy a nice, smart wig!

Contact with monsters doesn't kill you, it just knocks you off your perch and sends you down a few platforms, just after you spent 15 minutes getting there. Aaaargh! But you soldier on, swearing blind that this is definitely your last go. This is the sort of game that you'll love and hate.

Not really a game for beginners, but veteran platform fans should lap it up. If you're looking for a new challenge, and don't really mind going prematurely bald, Nebulus 2 should fit the bill quite nicely.

Daniel Whitehead

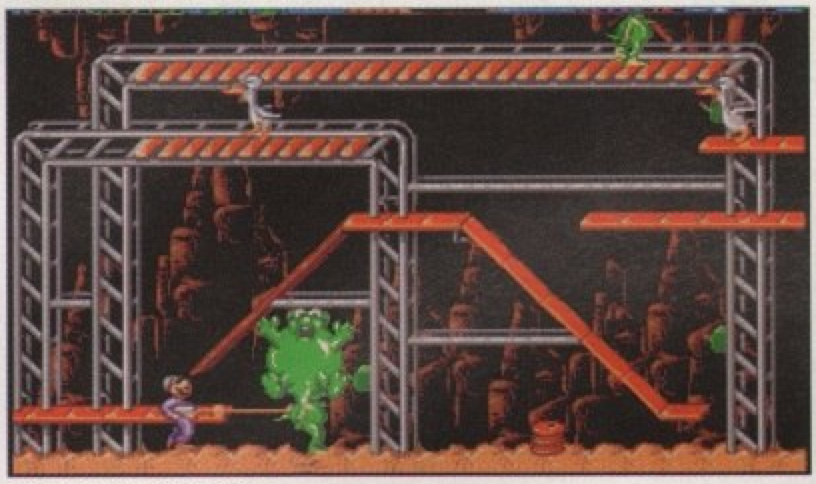
VISION GGGG
Plenty of variety and colour, plus some beautiful animation on the towers.

AUDIO GGG
Good spot effects are let down slightly by the unoriginal tune.

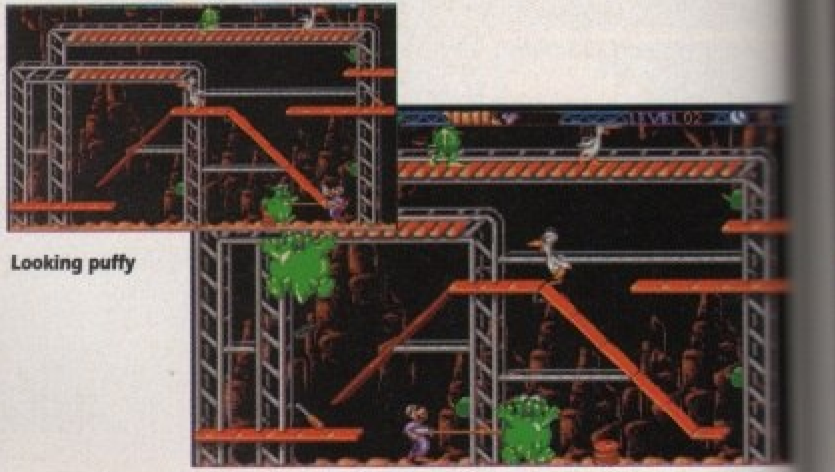
PLAYABILITY GGGG
Perhaps a bit too hard for its own good, but still great fun.

ADDICTION GGGG
One look and it grabs you by the throat and screams "Play Me!"

90%

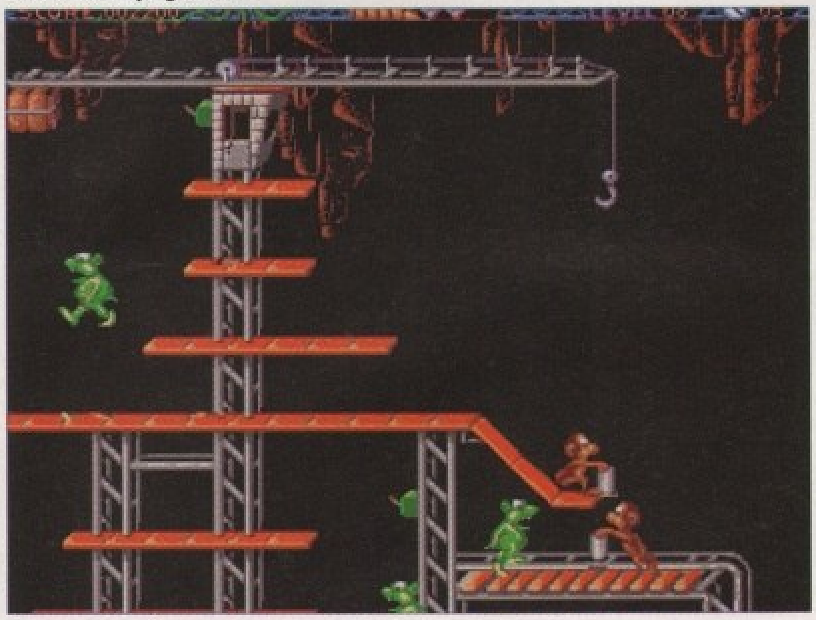


Inflation is helping Mr Bob



Looking puffy

Some quick pumping going on here



More monkeys than monsters

Pump

MONSTE

ECLIPSE ▪ £25.

What with the recession, rising interest rates and the price of a pint edging ever nearer to two quid, the building trade has enough problems on its plate without those presented by new German company Eclipse in this game.

Mr Bob is having problems with his construction sites – problems that make it almost impossible for his guys to do any work.

It all started when some forest creatures, known as Mad Meanies, disco ered they had a fetish for that bit flesh that hangs out of the back of eve construction worker's ageing Levis. The started by gazing from afar but the soon became more and more bold.

Then they realised that they actua had a bigger fetish for the building too of the guys with the bum cleavage. S at night they crept on to the sites an stole every tool they could carry.

This is where Mr Bob's problem lies –

VISION

Poor animation and a laughable attempt at a TV sports-style presenter.

AUDIO

Lucky I can't give negative figures.

PLAYABILITY

Easy to start into but no challenge at all.

ADDICTION

So appalling you have to beat it.

32%

The timing of this game is probably a little dubious. There is no obvious tie-in with the athletics, apart from the season itself, nor is there a big name licence. On top of that, the Olympics aren't until next year.

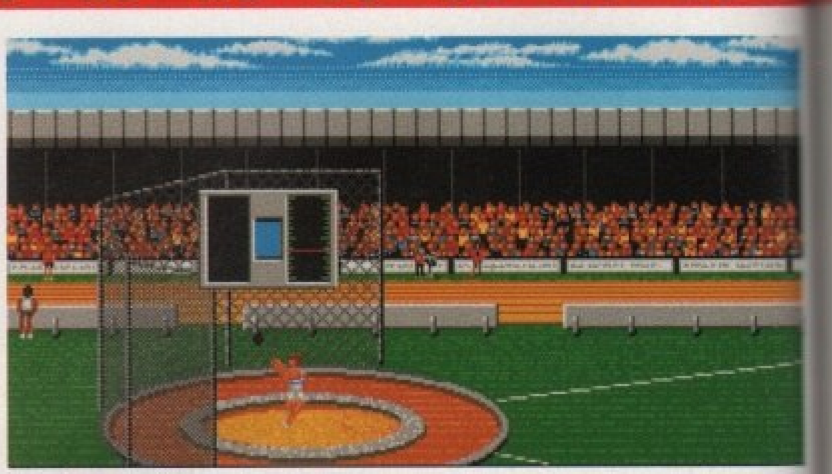
Basically there is no obvious reason to release an athletics game which offers nothing new. If the game was stunningly playable that would have been no problem – sadly there is not even that to recommend it.

Joystick waggling makes up the bulk of the 10 types of events, except the longer distance runs and the steeplechase. Jumping events and the javelin make use of what is called the Angle Sweep, positioned on one side of the info panel in the top left of the screen.

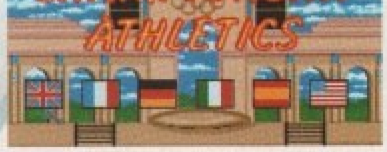
This is triggered by hitting the fire button, the idea being that if it is hit far enough in advance, but not too far, it will sweep through the optimum angle of 45 degrees at the moment the jump is triggered automatically. Meanwhile you are furiously waggling to get maximum speed in order to make the greatest distance.

The fact that the jump is triggered automatically takes away the one realistic aspect of the game, and anyone with a strong wrist can waggle their way to success very quickly.

The same applies to the throwing events but this time the fire button is used to catch the athlete as he is facing the right way, and the constantly moving Angle Sweep is at the optimum central point. The energy level created by the waggling is shown at the right of the info panel. This juggling of the three elements, energy, direction and angle, is



Hammer! Hammer! Here comes the hammer

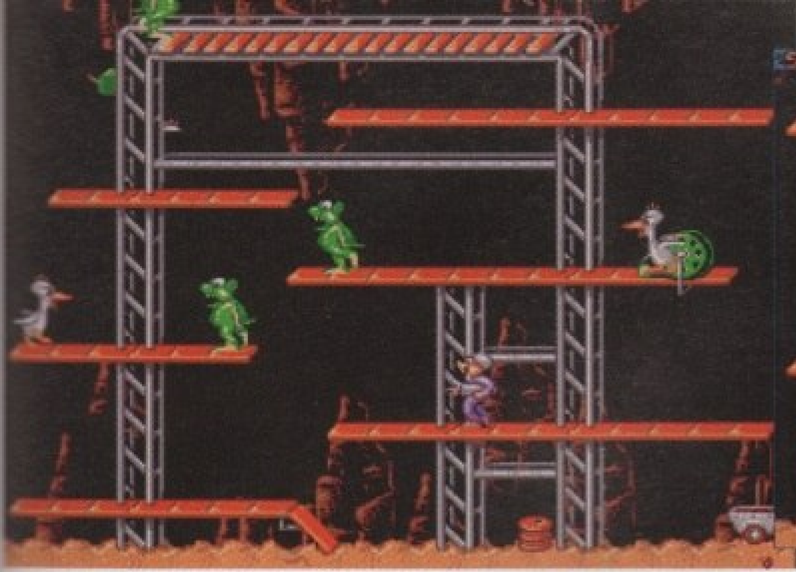


Multilingual

Waggle your way to boredom

INTERNATIONAL CHA

HAWK ▪ £25.99 ▪ 1/2meg ▪ Joystick ▪ Out now



That third level in full



He looks chicken to me

Pump the monsters

BUSINESS

1meg ▪ Joystick

his workmen have no tools. You take control of one Beastie Buster known as Leroy, the best guy for the job by all accounts. But then that is probably more to do with him being the only guy for the job rather than any particular aptitude for his profession. He is employed to guard each building site at night and destroy any of the Mad Meanies he may come across on his travels.

He chooses a rather unusual method to do this – he fills them with compressed helium and watches them float up into the sky. If he gets really clever he can push them off the screen, removing any other Meanies they may hit during their brief flight to oblivion.

When the meanies are inflated they drop all the tools that they have stolen. Leroy can collect these for a bonus when he returns them to Mr Bob, after he has finished each site.

The levels are played against the clock, with you losing a life if all the Meanies are not inflated when the sands of time run dry. If you feel that this may be an impossible task then the game can be played by two in a joint effort to reduce considerably the atmosphere's helium supply.

This platform-based game features nearly 50 levels of Meanie bashing but it is not enough to stop you thinking that this game would probably have been more suited to the ZX Spectrum some six or seven years ago. Even then the playability is just not there. What starts off as vaguely diverting soon gets repetitive.

I was expecting something far better from a company run by a programmer who had close involvement with the project. Must try harder.

Jools

VISION (2 of 5)
Childish and simplistic graphics can sometimes be excused, but not here.

AUDIO (2 of 5)
Stupefyingly dull tunes and effects that would be more at home on Radio 2.

PLAYABILITY (3 of 5)
Simplistic and repetitive at the best of times, but can be fun over short periods.

ADDICTION (0 of 5)
I find that trimming my toenails is far more addictive.

58%

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER

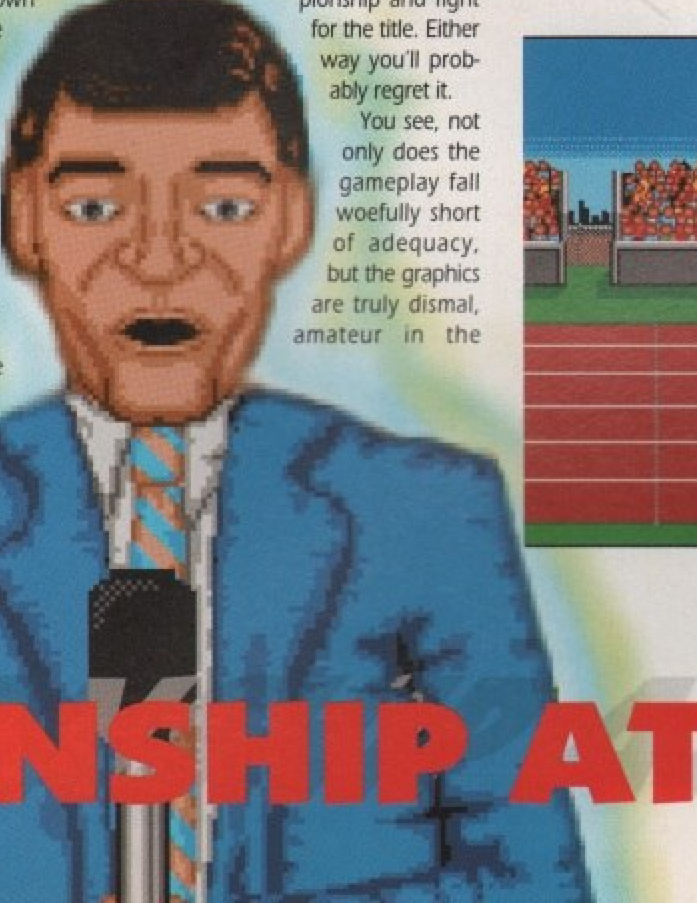
a good idea but is too easily conquered: my third throw of the hammer netted me nearly 80 metres.

The running events under 400 metres come down to nothing more than your basic waggle: the stronger the wrist and the higher the level of stamina, the better you will perform. Still, physical strength and stamina are what athletics are all about aren't they?

Above 400 metres it comes down to tactics. The idea is to use the joystick to adjust the level of energy expenditure: the more energy you use the faster you will go but the quicker you will collapse, exhausted. The idea is to get a balance that will see you run out of energy just as you cross the line in first place. Trial and error will soon sort this out.

Finally, we come to the steeplechase, and again it is too easy. The computer controls your running, all you have to do is time the leap over the hurdles. This is triggered by the fire button: five minutes practice and you're laughing. It's no real challenge.

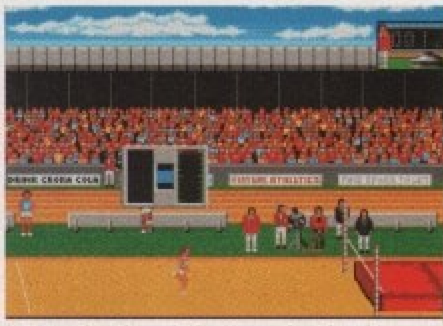
Not all the events have to be entered – you may choose to focus on single events for the sake of practice – but those with a strong wrist will find that after half an hour all the events have been successfully mastered. Or you can take part in the full championship and fight for the title. Either way you'll probably regret it.



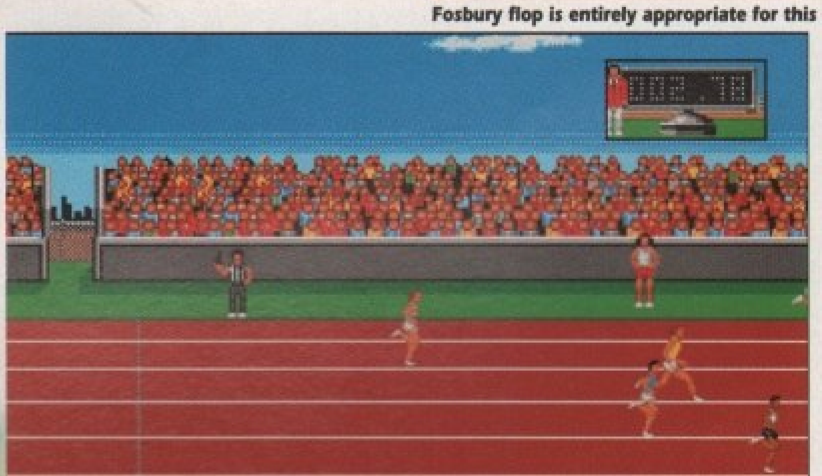
You see, not only does the gameplay fall woefully short of adequacy, but the graphics are truly dismal, amateur in the extreme, and the sound comes down to nothing more than a few oohs and aahs at the end of the event – and even these have to be loaded individually from disk.

My advice is that I would be loathe to pay out £7.99 for this on a budget label, but paying full price is well out of the question. This has nothing more going for it than the novelty of being so poor.

Jools



Fosbury flop is entirely appropriate for this game



So slow you're practically out of the picture

APIONSHIP ATHLETICS



Flowery it may be, but it has more thorns than the average rose



A common shoot-'em-up hazard that requires great skill and timing to get past. If, like me, you're not very good you might as well rely on luck



The middle of level one sees this ugly creature determined to stop you getting further. Three heavy shots to the eye will easily sort him out

Now some might consider you lucky, others may consider you the unluckiest person alive. At the moment, as your ship careers through deep space, you may well side with the former. You will soon change your mind.

Delta Space is a mysterious section of the Universe. Very little of it has been explored. Well, the buses were rather irregular so no-one ever quite got around to it.

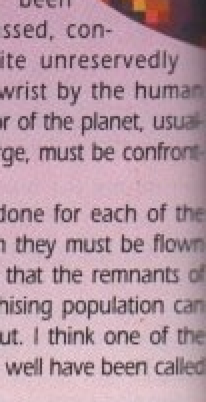
Those who did get to see the place, usually because they fell asleep on the way home from the pub, reported a system of five planets which were all part of the Aalan Empire, based on the largest planet of the system.

Each of the planets is populated by intelligent forms of life. None of them have heard of Stock, Aitken and Waterman. However, they being militarily weak, the fascist planet of Aala found no trouble whatsoever in marching in, crunching the daffodils and nicking all the kids' sweets.

It seems they also had a strange affinity for grabbing all the benches by the pool before you could get down there in the morning.

Now they have set their sights on somewhere else, somewhere more distant, somewhere far more beautiful. No, not Stansted Airport, but the Planet Earth – that radiant blue pearl in the black fabric of space. Not slow on the uptake, though, the Planet Earth of the 23rd century is more than aware of the imperialistic threats of the overbearing Aalans. Long-range scanning – exceptionally long-range, actually – has been detecting the military build-up outside of the Aalan system for the past few years.

But the blue eyed boys and girls of the Planet earth were more than ready for the challenge. They had assembled a massive force.



The plan is to liberate and ally with the four smaller planets of the system, relying heavily on the activities of the resistance movements of the oppressed planets to discreetly place extra weapons pods along the chosen attack path.

Once the planets' defences have been destroyed, bypassed, conquered and quite unreservedly slapped on the wrist by the human force, the governor of the planet, usually exceptionally large, must be confronted and blasted.

This must be done for each of the four planets. Then they must be flown through again so that the remnants of the Aalan sympathising population can be wiped out. I think one of the planets may well have been called Dresden.

All well and good, but soon after the attack was launched it all went tragically wrong. The crafty Aalan fleet sneaked up behind the human fleet, shouted boo and blasted them to kingdom come. This is where my original thought



These electric force pillars are easy to destroy but they take up valuable time as you try to manouevre in a very tight area



This high powered mechanical creature will not give you much oppurtunity to waste your shots



The first of the big bolt-on weapons gives you an additional single shot weapon. It also acts as a decoy that will destroy anything it touches

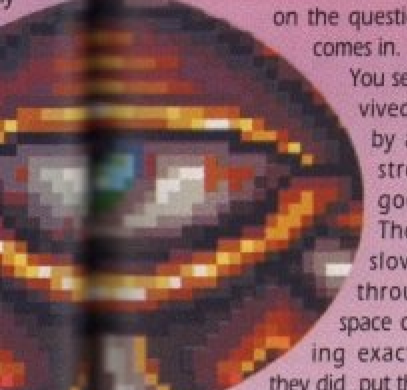


Falling crystals are the only problem in this section which is devoid of alien life

Time to save the world, again

ARMALYTE

THALAMUS ▪ £25.99 ▪ 1/2 meg ▪ Joystick ▪ Out September



on the question of luck comes in.

You see, you survived, initially, by a blinding stroke of good luck. Then as you slowly spin through deep space contemplating exactly where they did put the toilet on your one-man fighter, it occurs to you that as the sole survivor you have no choice but to single-handedly take on the whole Aalan fleet.

It soon becomes too late to find the toilet as you realise you are the unluckiest man alive, but you have to live with it as you warily fly into the greedy sights of the enemy fighters. It is entirely up to you to save the world, you poor schmuck.

The more aware of you out there will have twigged that this actually translates into an eight-level shoot-'em-up that may well be hailed as "Bloody Difficult 1991".

The game is very much in the style of R-Type, even down to the weapon that increases its power the longer you depress the fire button. If you tell the fire button that its mother has died the gun gets really powerful.

The gameplay takes it a step further by animating parts of the scenery to make some areas of the level more of a puzzle-solving exercise than an index finger exercise. These kind of decisions have to be made very quickly as the screen continually scrolls to the left. The indecisive will soon be lost in a shower of sparks.

The gameplay is extremely fast, decisions have to be made and reaction cannot afford to be slow, and this will make the game seem nearly impossible for the first few goes. But the few things you learn at each attempt can be used to gradually progress further into the game

After a while each, session will take you a little bit further. This style of gameplay means the challenge is high but the interest and addictiveness are maintained as each game reveals a little bit more to tease the player into another game.

The graphics are of a very high quality, the ship animates superbly, there are a wide variety of aliens, and the between level screens are up to Psygnosis' standards.

Sound effects give a thumping soundtrack but the effects are very good, if a little below the standard of the other elements in the game. My only reservation is that you have to wait well over a minute after losing your third life to be able to start again. This ruins the continuity and doesn't do much for your patience.

This game is a conversion form the C64 original, and they have managed to maintain the standards that made that version so playable. If you miss buying this you may well be laughed at by small children.

Jools



Early levels certainly don't shirk on aliens

VISION – 4/5
Great animation and loads of aliens.

AUDIO – 4/5
Driving soundtrack – some nice effects.

PLAYABILITY – 4/5
Loads of weapons, very challenging but too much waiting between games.

ADDICTION – 4/5
Teases you into playing again and again.

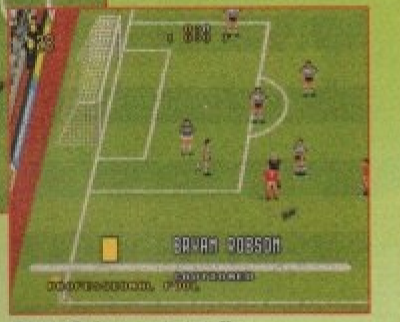
88%



Manchester United's leaky defence prepar for another devasting free kick from Barcelona's star player



The Reds take on Italy's finest



Bryan Robson acts totally out of character

Here we go... Here we go... Here we go... or do we?

MANCHESTER UNITED

KRISALIS • £25.99 • 1/2meg • Joystick • Out now

Stand by for one of the best football games this season. Krisalis Software, after scoring an own goal with the original Manchester United, have scored a stunner with the sequel, Manchester United Europe.

The game, as is obvious from the title, ties in with Manchester United's triumph in the European Cup Winners Cup. What would Krisalis have done if United had been soundly thrashed by Barcelona in the final? Maybe "Tranmere Rovers, The Play-off Edition"! To say the least, it's a big improvement on the original, with better graphics, sound and playability.

As Manchester United you can choose to play in either the European Cup, the Cup Winners Cup or the UEFA Cup, and if you are lucky enough or good enough to win one of these cups, you are entered in the World Club Championships.

The control method in the game has been altered and improved. You can now head, backheel, chip and volley the ball, as well as using aftertouch to curl and swerve it to perfection. All throw- ins, free kicks and corner kicks are now controlled by a large yellow cursor which you position on the field, then simply press fire to throw or kick the ball.

In between playing important cup matches you can choose to play friendly matches against great teams like Red Star Belgrade, Bayern Munich, Liverpool, Celtic, and several others from Albania, Norway and other smaller countries.

Krisalis have even managed to reproduce the other teams' club badges but not the players' names, so you get Mark Hughes and Lee Sharpe playing against the likes of A Pratt (Honest!) and other such made up names. But can you name Dinamo Bucharest's first team squad? No, neither could Krisalis.

On the main menu, which sports quite a funky tune, the other icons are found. These enable you to save the game and change the length of a match, or the manager's name. You can also alter the number of players from one up to four, although you can only have three or four players if you have the special four player adaptor. In a four player game you could have two people controlling the outfielders for each te[am] and the other two controlling th[e] goalies.

Other icons include those for look[ing] at United's and your opponent's sta[tis]tics and watching the results and fi[x]tures of the European competition[s,] laughing as Wrexham go out in the fi[rst] round.

The in-game animations are qu[ite] impressive, such as the goalkeep[er] punching out the ball and the waggi[ng] finger of the referee as your player ge[ts] booked or sent off.

Amiga users with a 1 meg machin[e] are treated to the graphical delights o[f a] substitute. Before coming on the field [to] play he can be seen doing his warm-u[p] exercises, running up and down th[e] touchline, taking off his tracksuit an[d] exchanging positions with the player coming off.

One of the best animations is see[n] when you finally get to put the ball int[o] the back of the net and the delighte[d] goalscorer runs down the pitch an[d] slides on his knees, taking the applau[se] and cheers from the team's adoring fan[s] while the rest of the team do th[e] "Gazza". No, not sticking their tongue[s]

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER

the source

Rumour has it that the Electronic Zoo has some new exhibits for the autumn. Daniel Whitehead sneaks under the turnstile before the grand opening

A day at the zoo

So, here we are, crouching behind a novelty waste bin (in the shape of a rather dilapidated panda) in the Electronic Zoo. We'd better have a peep at the new exhibits before the zookeeper catches us.

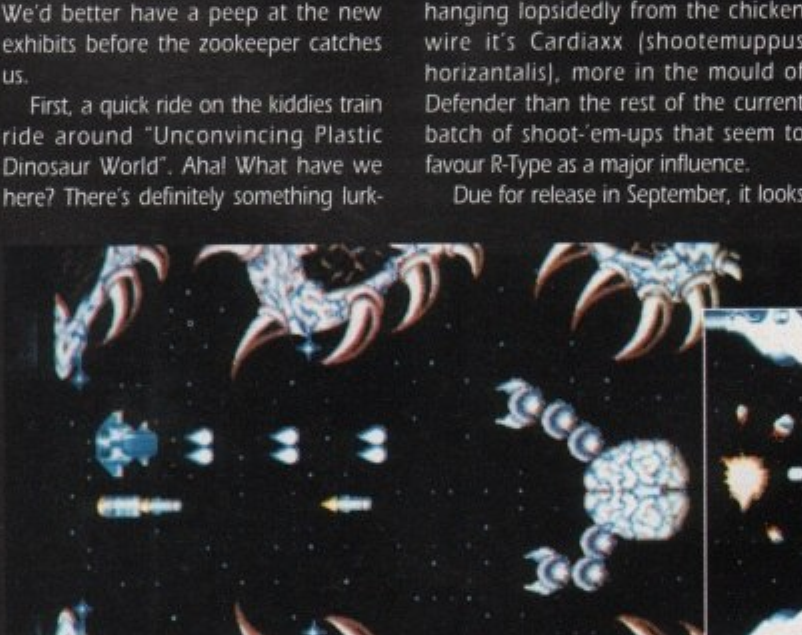
First, a quick ride on the kiddies train ride around "Unconvincing Plastic Dinosaur World". Aha! What have we here? There's definitely something lurking in the dark recesses of that smelly hut. It's probably something highly dangerous.

According to the little perspex plaque hanging lopsidedly from the chicken wire it's Cardiaxx (shootemuppus horizantalis), more in the mould of Defender than the rest of the current batch of shoot-'em-ups that seem to favour R-Type as a major influence.

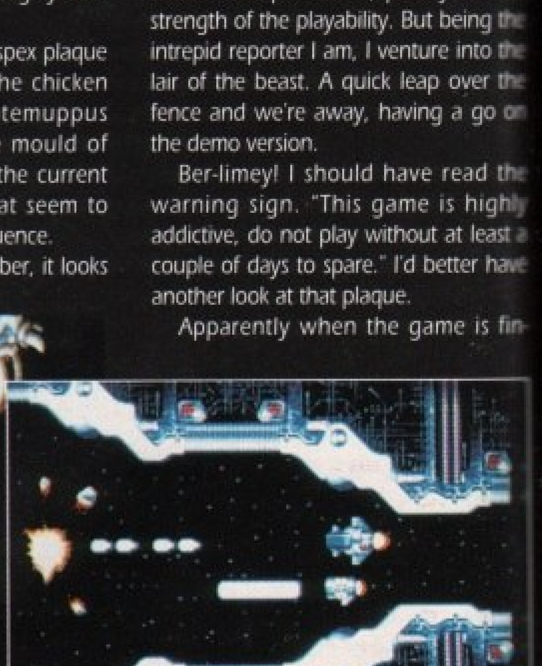
Due for release in September, it looks like it's going to blow away every other shoot-'em-up around, purely on the strength of the playability. But being the intrepid reporter I am, I venture into the lair of the beast. A quick leap over the fence and we're away, having a go on the demo version.

Ber-limey! I should have read the warning sign. "This game is highly addictive, do not play without at least a couple of days to spare." I'd better have another look at that plaque.

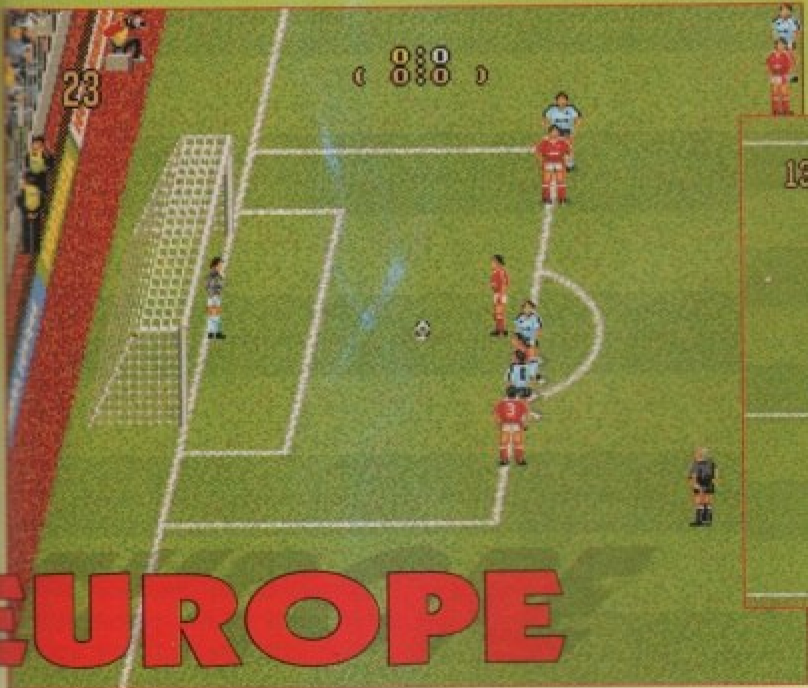
Apparently when the game is fin-



A fiendish alien about to take a good kicking from the ferocious Cardiaxx and...



A fiendish alien aftertaking a good kicking from the ferocious Cardiaxx



EUROPE

The ref points to the spot and Brian "Chocky" McClair takes the United penalty – and in true Red Devil's tradition misses completely



Lee Sharpe on the left wing, running rings around those nasty foreign hatchet men who have a strong dislike of spotty teenagers

VISION
Imaginative animations including a moonwalking referee.

AUDIO
Nice tune for menu screens, random crowd noises.

PLAYABILITY
Easy controls, loads of moves but slows down at times.

ADDICTION
No chance to show off your talent but for a quick kickabout on the park it ain't half bad.

76%

out and getting injured and being transferred to some out of the way Italian football club, but punching both their arms into the air with delight, bringing back memories of the last World cup.

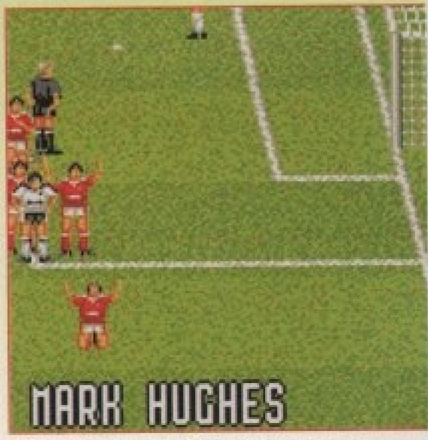
Manchester United is a great football game with high-quality graphics and good sound. The only minor complaints are that sometimes your players tend to slow down, and the computer difficulty level is set quite high. But apart from that it's really rather good.

A word for Kick Off owners who are looking for a change from Anco's classic: this is slightly slower with a different viewpoint and simpler rules, but it doesn't beat Kick Off.

Although Manchester United Europe has had a fine shot at goal in reducing the gap between Kick Off and other football games, it was always going to be the underdog.

And after the final whistle, Brian, it's Kick Off 1, Manchester United Europe 1 (Kick Off wins 2-1 after extra-time).

Jonathan Maddock

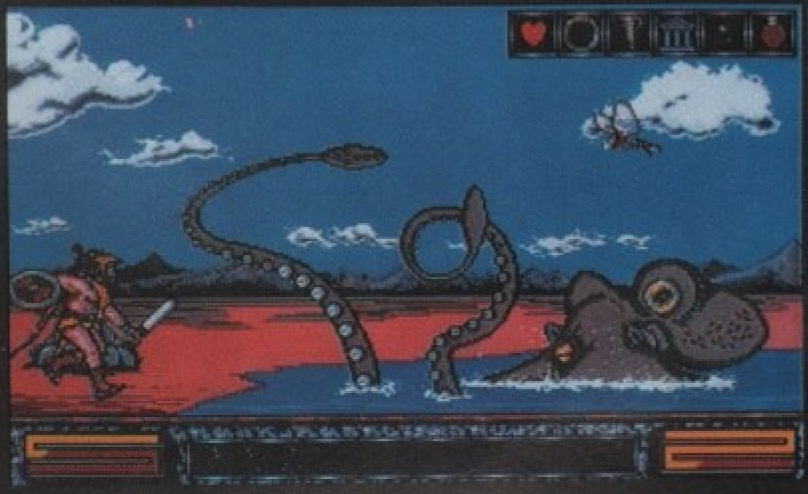


Goooaaaaallll! Mark Hughes the Welsh wonder chalks up another goal

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER



One of the many cities in Son of Zeus, full of people who've just climbed out of the bath



Big, recognisable sprites make Son of Zeus a treat for the eyes

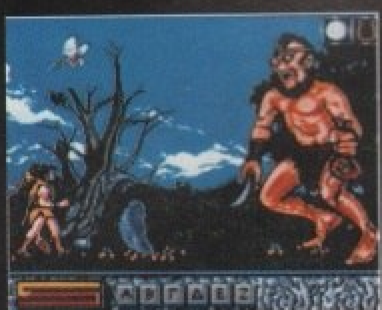
ished it will comprise five levels of gut-busting action, and the programmers plan to slip in a few little extras to make the gameplay that bit better. One thing they have in mind is to make it possible to collide with the scenery at the bottom and the top, but not to make it fatal.

The ship will be able to take a few hits before eating vapour, and in certain sections some expert flying will be required to avoid bouncing your way down a very thin corridor.

Of course, this version is a mere cub of a game, but if it manages to retain its playability into maturity it could be well worth your while liberating a copy from your local software emporium in September.

Moving right along we discover another new addition, in a cage next to the monkeys with big red bottoms. Stop giggling at the monkeys and pay attention. This is much more interesting.

What we have here is Son of Zeus (Roleplayerus Adventurami). This rare Greek beast is rumoured to sport over 40 animated monsters from legend including Polythemus, the cyclops, and a giant octopus, each of which features its own digitised sound effects to add to the atmosphere.



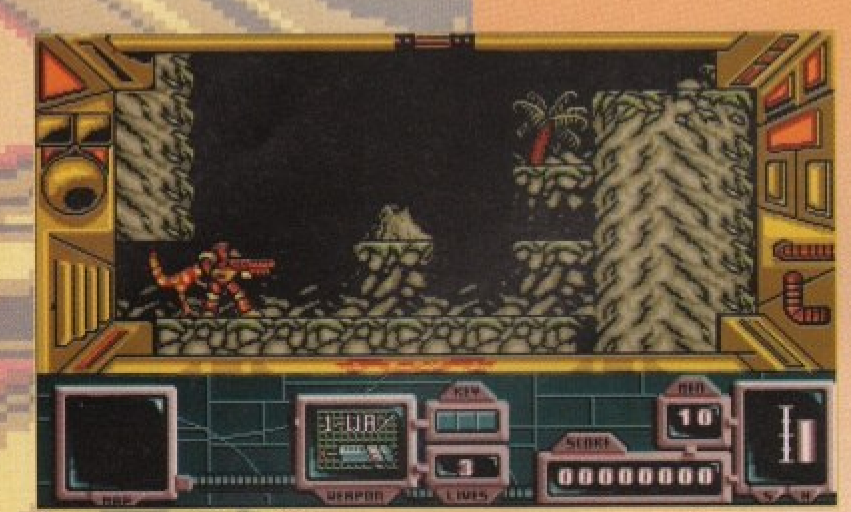
Never, ever get in the way of the Cyclops Pennine rambling group

(Adopts David Attenborough, hushed, out of breath tone.) The Son of Zeus has only one purpose in life – to retrieve the 12 parts of a shattered stone and free the gods who are imprisoned in Olympus. This is achieved by moving through a 3D world and interacting with the people of the various cities to obtain information and weapons.

Weapons? Yes, weapons, for Son of Zeus is a dab hand with all manner of implements including bow and arrows, swords and clubs. Visually it's a stunning wee beasty. Just look at the detail and colour of its plumage. If it moves half as well as it looks then it should be one of those exhibits that everyone crowds around at feeding time.

Son of Zeus was discovered by Brian van der Peer and Mick Tinker of Aeon Design, cowering in a Donner Kebab. They took it home, nurtured it, sang warm tender songs about flowers and rabbits to it and helped it grow up big and strong just like an arcade adventure should be. Keep your eyes peeled for it when it escapes in the autumn, as it can be tempted into your home for a mere £25.99 – or a saucer of bread and milk.

Phew! How about a change of pace after all those violent games about killing, death and general nastiness? Yes? Thankfully the next new exhibit is a bit more sedate and can be found housed in the Lots of Reptiles Sleeping ➤



First level foliage frenzy

Twin geeks?

ZONE WARRIOR

ELECTRONIC ARTS • £25.99 • 1/2meg • Joystick • Out now

If you come down to fundamentals, then the major developments of the human race, technologically and socially, can be put down to a handful of men and women who made the major breakthroughs, followed by a few more people who capitalised on their predecessors' success.

Take, for example, the loin-clothed chappie who invented the wheel. Imagine if he had died or been kidnapped the night before finally finishing his secretive chiselling at the back of his cave. The wheel may never have been invented.

It is possible that someone else may have come up with the idea but it is more likely that his mates would have been sitting around a campfire to this day wondering what that brilliant idea of Arthur's was, having no idea but being utterly convinced it would come back to them if they didn't think about it and talked about something else entirely. To this day the roller-skate may never have arrived.

What about the guy who discoverd the power of steam in ancient Greece? Now if he had mysteriously disappeared, not only would we not have been able to travel from Stockton to Darlington in 1825 but no one would have invented that nice little whistley thing that lets you know when the kettle boils.

Now, you may well be wondering what the Sam Hill this has to do with a computer game. Well, the horrendous scenarios that I described, the disappearance of eminent figures in our history, is the idea behind Zone Warrior.

The Earth of the thirtieth century has been under threat for years from a race of aliens known affectionately as the Geeks. So far they have managed to hold the Geeks off but now that may be extremely difficult. The Geeks have captured one of two prototype time machines that the Earth's scientists have been developing.

The Geeks plan to travel to key points in the development of mankind and destroy the pioneers of that time zone, like the chap who invented the wheel, and like the chap who discovered steam.

You have been chosen to travel in the remaining time machine and destroy the Geeks before they manage to disinvent the wheel, and very probably disinvent your existence as an indirect side-effect.

You know the sort of thing – because

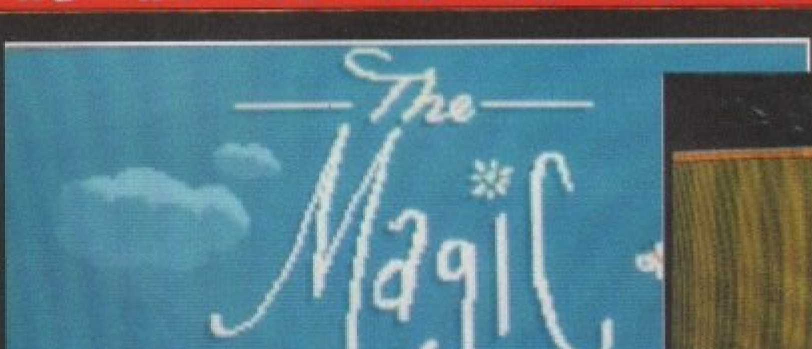


Walk like an Egyptian

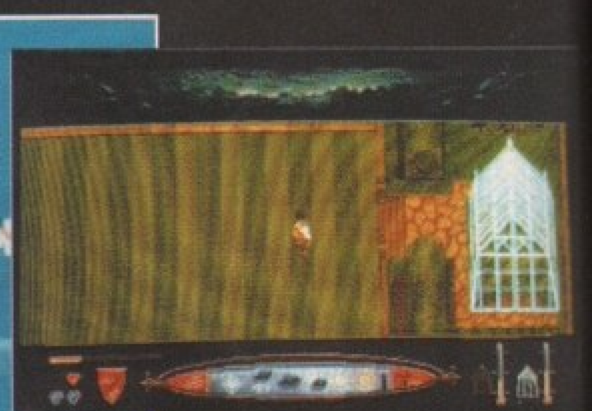
Between platforms the air flies up your trouser legs

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER

the source continued



Flower power returns in The Magic Garden



Grobble the gnome contemplates putting a brick through the King's greenhouse

Under Stones house. Its name: The Magic Garden [Strangerus Gameri].

The Magic Garden looks to be a bit of a new concept in games. After wiping the melted choc ice off the plaque we reveal a little of this curious creature's history.

A long time ago, at about the same time that "'Allo 'Allo" was still funny, Grobble the gnome was banished from his home for improvising the thrash metal remix of "Careless Whisper" at a local karaoke night.

As a penance for this heinous crime he was made to tend the King Gnome's garden. He's been there ever since. The only way for him to return to his idyllic life is to grow the key to the garden gate on his key tree – quite an obvious solution really – but that takes time and while he waits for his key to grow he must keep the garden ticking over or else the King Gnome gets all uppity and pulls grumpy faces and has Grobble Burgers for tea.

Unfortunately for our Grob this is no ordinary garden. Nay, 'tis The Magic Garden and so magic things happen with distressing regularity. If the plants get thirsty they get up and walk off, if the pond dries up the fish bounce away, as fish do, and of course there's the common everyday gardening hazards such as underground monsters who steal all the food, and gangs of Gnome skinheads who make a mess of the garden, just like they did to the one on Blue Peter.

All is not gloom and doom though because Grobble is blessed with a shed full of tools, a magic coat to carry

the wheel wasn't invented when it should have been your dad wouldn't have knocked your mother of her bike and seduced her on the way to the hospital, and you would never have been born. If you don't exist then the aliens have free rein to go and wreck the rest of humanity and write a completely new history for Earth, hoping the outcome will be that by 2967 civilization has ceased to exist, or at least to be civil. Hell, it stopped doing that in the 20th century!

Enough of the politics – what the hell does this game do? Well, it's a platform game in which you control a character that has been described around the office as Turrican on steroids, but I don't believe it's anywhere near that good. The main character's great and "well 'ard" but the gameplay is a bit short on action.

The main body involves leaping from platform to platform, ducking and avoiding assorted immovable objects that hurt, like spikes or venus flytraps, and trying to shoot the Geeks that have oh-so-cunningly disguised themsleves to match their surroundings.

This bit is dead easy – the more difficult bit is wandering around the maze-like levels and trying to find all the hostages and the keys so that you can progress to the next level.

It's fine while you are doing it but when you lose your third life at the end of one of the levels it becomes a real chore, not a challenge, to carry on and do the whole level again.

If you can overcome this though, or play in short bursts, it can be ok, if you don't mind a lot of exploration and map reading. It reminds me of a pint of Tennents – it's good...but not that good.

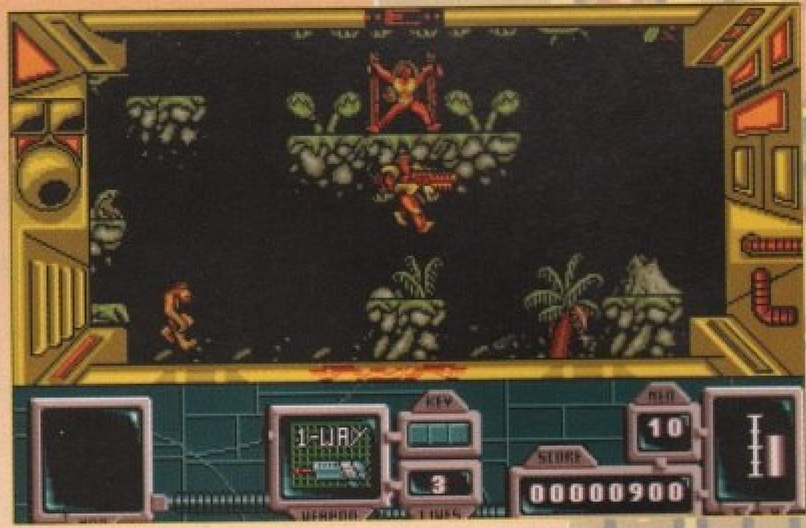
VISION GGG
Competent but not high class.

AUDIO GGG
Great in-game speech but few effects.

PLAYABILITY GGGG
Huge levels to explore, and later levels are taxing.

ADDICTION GGG
Makes you want to achieve, but a turn-off after initial failures.

70%



A damsel in distress



The pep talk prior to the level

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER

objects and a dragonfly who helps him zip around in record time. Perhaps an AK-47 asssault rifle and some napalm would have made it a little easier, but The Magic Garden is strictly non-violent. So dragonflies it is.

The Magic Garden features some nifty graphics and gameplay not dissimilar to that so-called classic 8-bit game of yesteryear, Pedro – except The Magic Garden is much better. For those who want a different kind of challenge and are tired of the mental strain of blowing the poop out of yet another alien invasion force, it could well be worth a look when it's unveiled in mid-October for a trifling £25.99.

The final under-wraps project is tucked away behind the Is It Dead Or Just Sleeping? giant tortoise enclosure. Even as we approach its cage we hear the subtle sounds of hardcore funk beating on our eardrums. So much for the quiet games. Another look at one of those oh so helpful plaques tells us that we are about to enter the Under Pressure enclosure.

Under Pressure (Scrollerus Arcaderami) is, as you may have guessed, a return to those noble moral codes of computer gaming: kill everything that moves, and then kill it some more until it's had enough.

Why though? Why must we once more commit genocide on the inevitable alien hordes? Surprise, surprise! Your other half has been whisked away by, and I quote, "the very mean and nasty baddie". It's nice to see that Under Pressure doesn't take itself too seriously, and this is mirrored in its graphics. Our hero starts off as a rather groovy young fellow, complete with shell suit, baseball cap and phenomenally huge trainers.

However, no matter how hip Troop tracksuits are, they aren't reknowned for their bullet-proof properties so it's advised to pick up some chunky robotic body armour along the way. It's less trendy and hard to dance in, but a lot safer if you're thinking of taking on "the very mean and nasty baddie" and his entourage.

Plenty of colour and big, bouncy sprites distinguish this animal from others of its ilk and put it firmly in the same family tree as the highly acclaimed Metal Mutant. Sonically, too, it is easily recognisable due to its 12 funky tunes which punish your speakers as you play.

The captors of this beast are Eldritch (alias Mark McCubbin and Steve Wetherill) and they hope to have vast numbers of them tamed and taught to jump through hoops by early autumn. Catch them on display in the shops then for £25.99.

So that's the up-coming attractions at the Electronic Zoo. One shoot-'em-up, one role-playing game, one arcadey scroller and, er, a game about gardens. Not a bad little bunch in anyone's book.

Of course they'd probably be happier in the wild, but then we wouldn't get our sweaty hands on them would we? Now all I have to do is sneak out of here without being caught...



Forget Nike, this year why not go for the all-over body armour look in Under Pressure?







Just some of the knee tremblingly sexy sprites from Under Pressure

1	Manchester United Europe	Krisalis	£25.99
2	TV Sports Football	Mirror Image	£9.99
3	Full Contact	Team 17	£9.99
4	Fantasy World Dizzy	Code Masters	£6.99
5	Monkey Island	US Gold	£29.99
6	PGA Tour Golf	Electronic Arts	£25.99
7	Eye of the Beholder	US Gold	£30.99
8	Xenon 2	Mirror Image	£9.99
9	Lombard RAC Rally	Hit Squad	£7.99
10	North and South	Digital Integration	£7.99
11	Pro Boxing	Code Masters	£6.99
12	Little Puff	Code Masters	£6.99
13	F15 Strike Eagle II	Microprose	£29.99
14	Ninja Rabbits	Micro Value	£6.99
15	Rainbow Collection	Ocean	£29.99
16	Treasure Island Dizzy	Code Masters	£4.99
17	Defender of the Crown	Mirror Image	£9.99
18	The Games – Summer Edition	Kixx	£7.99
19	3D Pool	Mirror Image	£9.99
20	Lemmings	Psygnosis	£25.99

talkin S

Man Utd Europe and the ... re-release of TV Sports F... have come in like the prove... bullet from nowhere into the ... two spots. The shock of ... meteoric rise sent former num... one F-15 II from Microprose ... meting with only one en... burning down to the unl... number 13. Can the fatal div... arrested in time?

Team 17's Full Contact ... hanging in there, only slip... one place to number three, ... the ubiquitous Codemasters ... little quiet this month with ... four games in the top 20, ... highest being at number four.

GALLU CHAR



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rest of the top has seen a wee bit of shuffling but there are no real surprises.

Further down the chart Kick Off Winning Tactics hangs in there at number 40, Lemmings enjoys continued success, swelling the Psygnosis coffers at number 20

The worrying thing is that the top 40 features only 14 full price games. This may look up however as the market goes into overdrive for Christmas and all the decent full price titles start appearing from the woodwork. Let's hope so because the first sign of a market in trouble is the proliferation of budget titles.

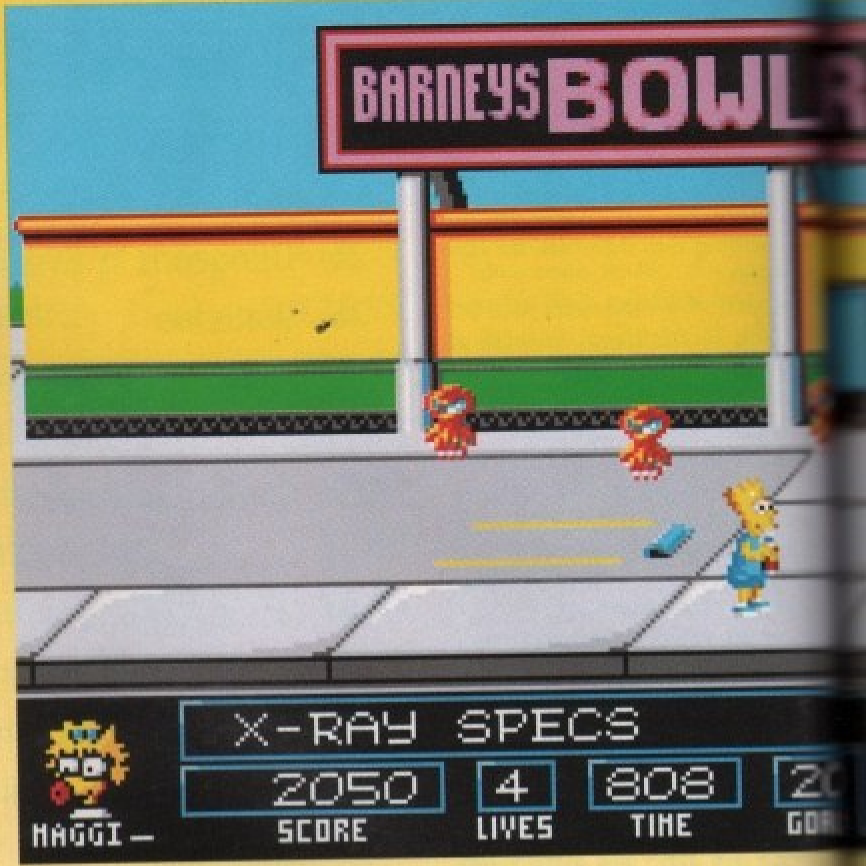
UP
ART

Compiled exclusively for GAMER

The Gamer chart is compiled by Gallup Ltd, and is the copyright of the European Leisure Software Publishers Association.

21	Beach Volley	Hit Squad	£7.99
22	Armour-Geddon	Psygnosis	£25.99
23	Miami Chase	Code Masters	£7.99
24	Gods	Renegade/Mindscape	£25.53
25	Dungeons 'n' Everything	Atlantis	£6.99
26	Waterloo	Mirror Image	£9.99
27	World Class Leaderboard	Kixx	£7.99
28	Run the Gauntlet	Hit Squad	£7.99
29	Carrier Command	Mirror Image	£9.99
30	Hero Quest	Gremlin	£25.99
31	Rocket Ranger	Mirror Image	£9.99
32	Impossamole	GBH	£7.99
33	Railroad Tycoon	Microprose	£34.99
34	Life and Death	Mindscape	£25.53
35	Red Heat	Hit Squad	£7.99
36	Wings of Fury	Respray	£9.99
37	CJ's Elephant Antics	Code Masters	£6.99
38	Toki	Ocean	£24.99
39	Classic 4	Energize	£6.99
40	Kick Off – Winning Tactics	Anco	£12.99





Put your shorts in a sandwich and grab your joystick!

BART vs THE SPAC

OCEAN ▪ Free with Cartoon Classics pack ▪ 1/2 meg ▪ Joystic



Just a normal night at the Simpsons' household

It had to happen. Move over Turtles, Bart's here. Ocean have snapped up the licence to convert the Simpsons game that appeared first on the Nintendo Entertainment System (as opposed to the coin-op).

Being the cynic I am, I presumed that Ocean would simply re-do RoboCop with different graphics. After all, that's close to what they did with Batman, Total Recall, Navy Seals and pretty much every tie-in since time began.

But the cunning devils have broken the trend and, just to make me look like a pillock, have turned The Simpsons into a cracking little game with enough character to make it stand on its own.

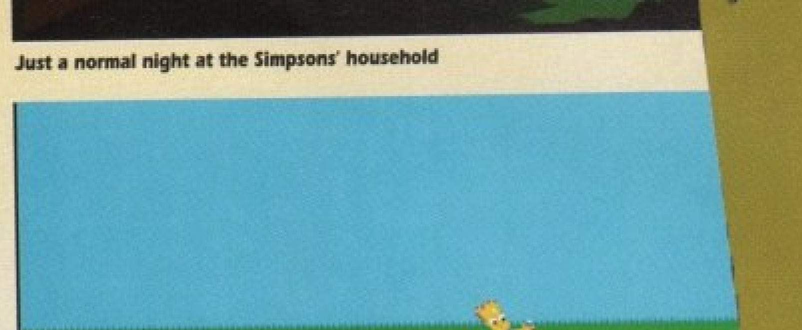
The game has a truly incredible animated opening. In it, Bart sees a UFO land in his garden through his X-Ray specs and sets off to stop the Space Mutants from taking over Springfield. Throughout this clever opening scene the graphics are crisp and smoothly animated and the sampled speech is as clear as a bell.

Things don't go downhill from there either. The gameplay is fast and furious. From the very start the player is presented with puzzles and aliens to solve and to avoid.

The view is side-on although the comprehensive moves available allow a significant amount of interaction with the backgrounds.

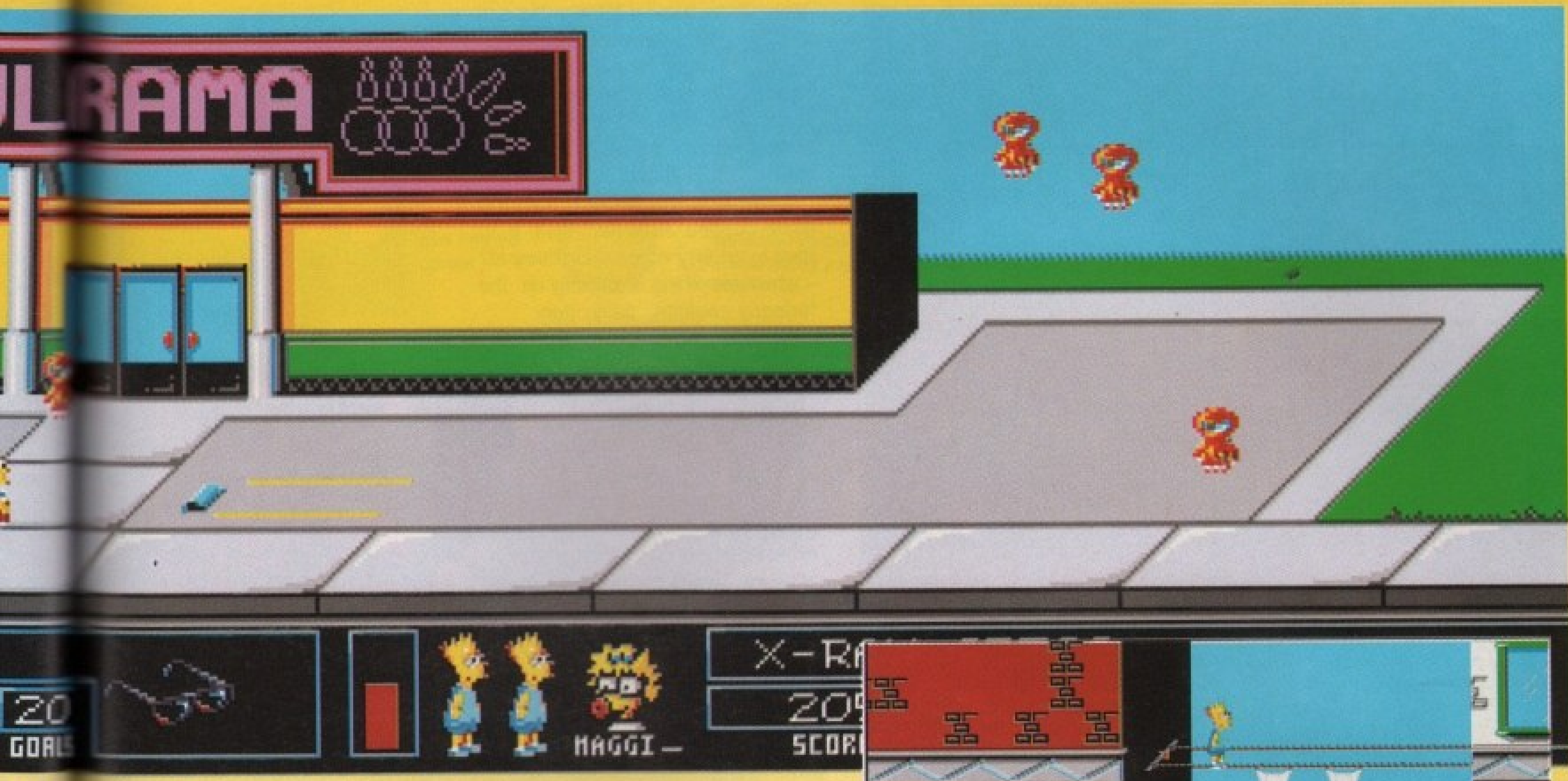
The game also scores well in that it gives the user a number of different ways to fulfill the main objective: Bart must prevent the aliens from collecting the items necessary to build their planet-threatening ray gun.

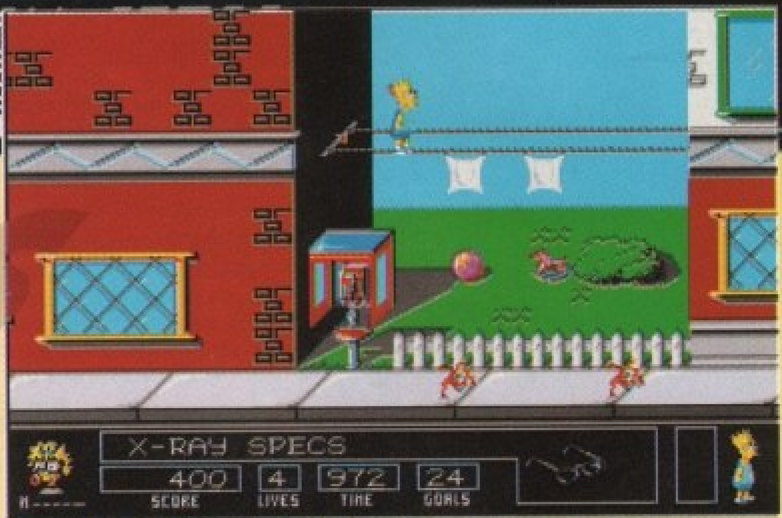
On level one this means painting or covering up anything purple, and later levels offer such bizarre items



Bart hangs ten on his wheels







Bart takes up the highwire to dodge the aliens

ck!

EMUTANTS

stick ▪ Out late autumn

as hats, balloons, exit signs and nuclear power rods, all of which must be removed, hidden or collected.

The different ways to get these objects are never too obvious and some are fiendishly difficult, although he can make use of helpful items such as spray paint, rockets and catapults which he can buy with the coins that have been collected along the way.

Also available to help are the rest of the Simpsons. They can only be summoned by collecting enough proof of the aliens' existence to convince them to join the fray.

The action is non-stop and there are plenty of jokes along the way – for example, you can get Bart to ring Moe's Tavern and ask for Stu Piddidot or Al Coholic. The challenge that the game presents is quite considerable.

This is not a game that can be beaten easily. It should take even the most hardened joystick junky a fair while to get to the end of level one, never mind level five!

The graphics are beautifully drawn and the characters really do justice to the original cartoon, both in style and movement. The screen explodes with colour every inch of the way, looking for all the world like an episode of the 'toon.

Bart in particular is very well animated. Fans will be pleased to hear that his Lego person looks are faithfully converted to Amigavision.

Although the majority of baddies are simple bouncing space invaders, the programmers have remained faithful to Acclaim's original and have managed to squeeze in various characters from the cartoon including Nelson the bully, Marvin Monroe the mad doctor, Ms Botz the babysitter bandit and, as they say, many more.

The sound isn't bad – the tune is catchy but nothing more than a basic rendition of the series' theme tune. At least it's not that Bartman record! The sound effects aren't ground breaking, either, but in the thick of the action sound becomes secondary.

The game is certainly a joy to play and the programmers have generously given you three lives, although each life is capable of taking two hits. So that's really nearer six lives isn't it? Believe me, you'll need them.

The game is cleverly written so as to let you glimpse a new and tantalising section each time you play. The first time you play you probably won't do very much. The next time around you get the hang of dodging the aliens and maybe even getting some of the objects from them.

Carry on and you learn how to enter buildings to buy things. Then you reach the skateboard section and so it goes on.

Just when you think you're about to eat your power pack in desperation (don't try this at home) you suddenly figure out how to get that elusive object or dodge that pesky alien and off you go again for the umpteenth time. This game could well cause many sleepless nights.

This review is becoming a bit like an advert for Ocean so I'll have to find something to moan about. Well, it is annoying that the whole game is totally joystick controlled.

Apparently, if you push up and left you run faster, but more often than not you'll just jump diagonally and land on an alien.

The inventory is also quite hard to control and often results in unwanted selection of objects when you really wanted to move Bart down on his skateboard. But that's about it as far as moans go.

So it's official. The Simpsons is brill. It could have been a real cock up – look at the Turtles game – but Ocean have managed to duplicate the combination of laughs and gameplay that made Acclaim's original what it was. Who cares if I can't get off level one? I'm an underachiever and proud of it!

Daniel Whitehead

Some of you out there may well be aware that the character that is taking the world by storm, via BSkyB in Europe, started life with his family on The Tracy Ullman Show in America about four years ago.

Bart and his family were such a success that they eventually got their own series. The rest of the marketing and T-shirt buying is history.

The only problem now is that Tracy Ullman is suing Fox Television for $30 million – what she calls "her share of the profits". I get the feeling that Fox Television won't pay up without a fight. This one could run and run.

VISION (4/5)
Excellent opening animation. Detailed and colourful sprites and backgrounds in the game.

AUDIO (3/5)
Simplistic version of theme tune and reasonable effects.

PLAYABILITY (4/5)
A sideways-scrolling game is spiced up with humour and plenty of neat touches.

ADDICTION (4/5)
Once you've played it you'll be hooked, although you may find initial difficulty a turn off.

87%



Those starfish with the boomerangs have Tam and Rit trapped



This game is billed as "So cute it'll make you puke." Hardly one of the most enticing or attractive pieces of copywriting I've ever encountered. In fact, I think "Milwaukee, home of the serial killer" is a far more inviting, erm, invitation.

So what is this Rodland platform game gubbins all about? Well, it all starts in the fairy village – don't they all? – where something is definitely up. The formerly chummy, pally, dog-foody inhabitants of the village have been possessed by an evil force that was only previously kept in check by the presence of Mom.

The sad thing is that our Mom has been kidnapped by the nasty chap who started buzzing this evil force around in the first place. This, of course, means that none of the wee little furry things that ran around, shall we say, er, fouling, your garden can now resist this force.

They soon become furry freaks that run around angrily messing in your garden as well as trying to kill you. And while all this is going on, poor Mom is

VISION

Loads of colour and bundles of humour.

AUDIO

Stereo effects, and dangerously cute.

PLAYABILITY

Superb for arcade fans, but not going to win any converts.

ADDICTION

The Govt. should put a health warning on it.

89%

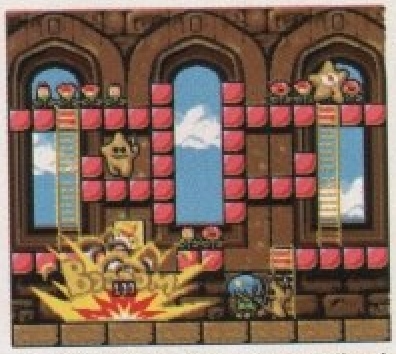
Diced carrots time folks...

RODLAND

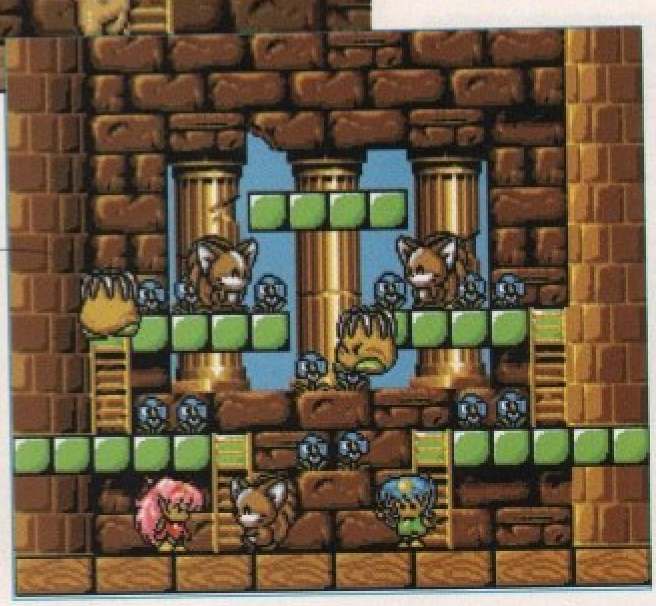
STORM • £25.99 • 1/2 meg • Joystick • Out September



Poor Tam buys the farm, cops the big one, pushes up daisies, croaks, shuffles off this mortal coil, passes away, kicks the bucket, pegs out, cashes in his chips, erm, dies



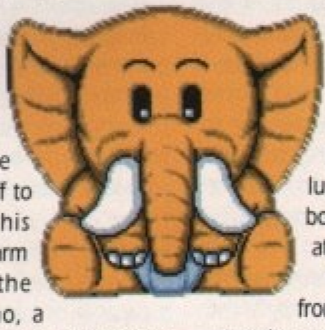
A minor explosion doesn't seem to disturb the worryingly cheerful, or thick, starfish



Squirrels, mutated PE bags and a few pansies try to convince Tam and Rit of their insanity

locked up at the top of the Maboots Tower, screaming and wailing for help.

Of course, anyone called Mom really ought to have some sprogs. She does: two as it happens. Tam and Rit are understandably miffed at their Mom being kidnapped.



There is only one solution: they dash off to the Elder to grab his Rainbow shoes and arm themselves with the Rods of Sheesanomo, a gift from their magically inclined father. Now they are fully equipped to go around and wop all the angry furries over the head in an extremely violent, but insufferably cute manner.

These creatures take many forms, from long eared rabbits to polymorphs that lay out a very long tongue in an effort to catch you, not to mention the boomerang throwing starfish, or the sharks that try to elicit sympathy by crying before you give them the final blow of the three that all creatures must take.

This is slightly misleading, in fact, because you don't hit them but use your rod to pick them up and swing them back and forth over your head banging them against the ground until they disappear. If you're lucky they will turn into a bonus pick up – see details at top right of this screen.

The pick-ups can range from bonus points to flying bombs and sticks of dynamite, all of which can be used to destroy the creatures for even more points. Strangely enough, Tam and Rit also have a remarkable talent for summoning ladders from thin air. Quite what relevance this magical ability would have in everyday life I'm not sure. It's nearly as useful as a camel that can swim, but in a platform game the benefits are marvellous.

At will, Tam and Rit can summon a ladder to give them access to areas of a platform that may be blocked by the possessed creatures. Or, should the level allow it, they can take a ride on some of the balloons that float up from the bottom of the screen from time to time. The malicious among you will take great pleasure in





The Zippo icon gives a massive flame instead of your rod. Extremely useful



The crystal is one of the best, pick it up and it spews out a shower of smaller crystals which destroy anything they touch



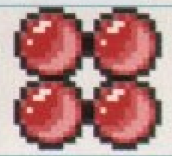
This bomb sends a plume of white light in either direction, wiping out everything on your level



Run over the bomb and it flies off in the direction you are facing. Be careful not to waste them because anything they destroy gives a bonus



The speed icon makes you just that little bit quicker



Pick this up and it will send four colourful balls whizzing around the screen killing anything they touch





"Riding the balloons to oblivion baby, I just can't stop." Furry Freak city hits the Amiga

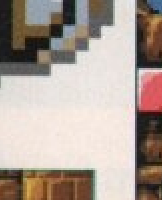
The muffler with a ribbon in its hair is a polymorph who wanders aimlessly, while Rit has a rabbit trapped in the influence field of her rod



The strangely delectable Mom languishes in jail

bursting your companion's balloon in a two-player game.

Every level is full of pretty flowers that, when collected, give a small bonus. If you collect them all before you kill all the creatures you are zapped into a bonus game where every creature left is turned into a radish that runs around in the usual aggressive manner. Every radish that gets bashed relinquishes a little ball that cycles through the letters of the word EXTRA – collect all the letters and you will receive a massive bonus.



This bonus is most useful in two-player games where one player takes the role of Tam and the other Rit. Between fighting for the bonuses and collecting as many flowers as you can, teamwork goes out of the window as the pitched battle for points rages onscreen.

One-player though is nearly as much fun as you dodge, climb and panic your way around the lumbering potato sacks, pathetic sharks and the radishes. Not only do you have the day-to-day style creatures, after every five levels or so you face a really big animal that can be a mutant bull, huge sperm whale (schoolboy humour alert!), or dangerously large crab. What fun it is!

This conversion of the Jaleco coin-op is better than the original, which suffered from being an average copy, gameplay-wise, of Bubble Bobble. But this version adds to the gameplay and introduces some nice graphic touches.



These appear when time is beginning to run out on the level: just before where the creatures turn into blue meanies and chase around madly, they find a piece of food and eat it. It is this that turns them into the aforementioned Lennon/McCartney creations.



For example, the rabbit will find a carrot, the monkey a banana and so on. It all adds to the fun and the rest of the graphics match the colourful, though admittedly simple, screens from the coin-op.

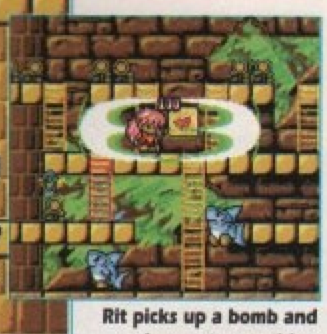
Sound is unashamedly stereophonic, collapse on one side of the screen and the sound will come from the corresponding speaker. The playability is pretty good too. It's not too easy to begin with but the 40 odd levels should ensure that you get your money's worth, especially if you get the chance to play it with a friend.

The only down point is that the gameplay might be considered by some to be a tiny weeny bit repetitive, but with the humour, the speed and the mixture of different creatures you soon forget that all you are really doing is building ladders.

Jools



The yellow ladders are part of the level, the red and blue ones belong to Tam and Rit



Rit picks up a bomb and wipes out everything on her platform



That kind of suppleness should be in a circus



The glove will come in useful later


So, you think you can spill my pint, eh?

Sharpen your shurikens for a second sequel

LAST NINJA 3

SYSTEM 3 ▪ £25.99 ▪ 1/2 meg ▪ Joystick/Keyboard ▪ Out now

The third instalment in this long-standing epic is about to be unleashed on the games buying public. Our hero is set to return to Tibet to face his arch enemy, the high priest who turned evil and made life a tad difficult for the friendly neighbourhood ninja.

Well, actually this is sort of the fourth instalment but only the third that System 3 are happy to endorse. When they were with Activision they did Last Ninja 1, and very successful it was too, but half-way through Last Ninja 2 they split from Activision, and signed the unfinished title over to them for Activision's in-house team to finish.

The game was then released and was acclaimed by all and sundry – the world, his wife and some of his more astute relatives – as being a bit of a dog. Now, System 3 were understandably a bit miffed about this, especially as their logo was plastered all over the packaging in a rather obtrusive manner.

So to redress the imbalance they got on with doing Last Ninja Remix, or This Is How Last Ninja 2 Should Have Been And We've Got Our Names As Developers To Think About. This version received the now standard rave reviews and everyone was happy.

Then having recovered in a typically bullish manner, System 3 set about work on the third and final instalment in the series, imaginatively entitled Last Ninja 3.

Back to the story...

Like every good ninja, our hero has finally come to that ultimate battle. He has reached the pinnacle of his physical and spiritual condition, he is at one with himself and everything around him, peace flows like nectar through his body, nothing can disrupt his state of mind.

After meditating for what could have been an eternity, but was more likely to have been during the ads in Coronation Street, he has become aware of the task that lies before him. The evil aura that emanates from the Tibetan monastery where his nemesis awaits has reached him, and he knows that he is the only man on the planet who can even begin to think about taking this guy on.

Does this make him the stupidest man on the planet? Entirely possible – it also make him one big chuffing hero for the world, but no one will ever know of his epic struggle. Well, apart from you.

The monastery is divided into five levels of consciousness where, following the impressive opening animation that shows matey boy sneaking over the wall, our hero must fight through hordes of soldiers and solve numerous puzzles before coming face to face with his arch foe, a demi-god slightly smaller than the Sphinx.


The tap-dancing judge looks unimpressed

The five levels represent the four elements of earth, wind, fire and water, the fifth being void: a non-element that gives us the chance to see Ninja in space, sort of.

Each level, while graduated according to difficulty of the foes, presents the player with different puzzles that must be solved if the level is to be completed. These puzzles generally involve finding a scroll that gives the key to the next level, and it may well be clearly visible but it's never easily accessible.

For example, the first level puts the scroll over a hole in a ledge. It's impossible to get to, but above the hole on another ledge is a rock.

The idea is to collect the items you need to make the rock fall – not too difficult, but a bit of deduction is required to

GAMER

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My, grandma, what big biceps you have!

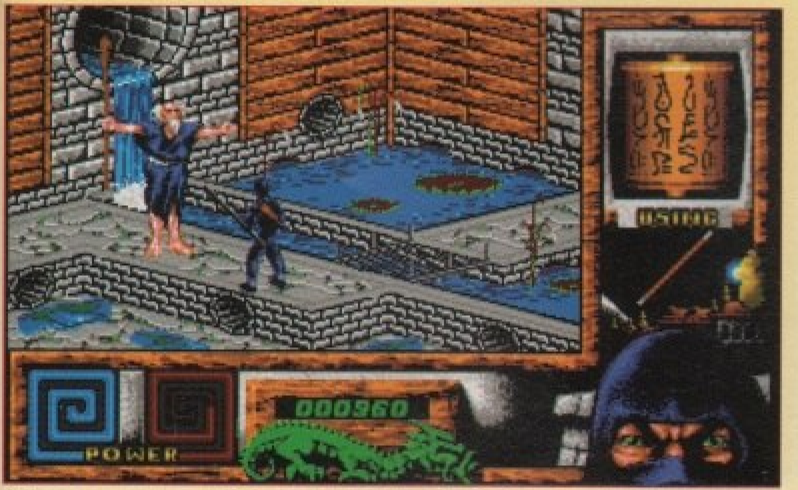


End-of-level guardian in bowling alley disaster shocker



A demonstration of the illusion of depth given in some places


Psst, 6x13 hardwood board £8.99



Indecent exposure was rife in 10th century Tibet

suss out exactly what is required. The fighting logic has been improved as well: Last Ninja Remix suffered slightly because the fight controls were very complex, especially if you wanted to make your character turn around.

These new controls are extremely straightforward: you just push your joystick the way you want to face in the time-honoured tradition.

This, together with the bigger sprites, makes the fighting altogether more playable.

Fighting a bigger opponent gives you the chance to build up your Bushido Power. This is represented by a dragon at the bottom the screen; when it is completely green you are at your maximum, making it easier to fight. The problem is that if you avoid fights or just blast away with the old shurikens, your Bushido is going to grow about as fast as a cactus. You have to fight a lot but you also need to become familiar with weapons so that if you come across a nunchuka-wielding nasty you can fight him with your nunchukas and increase your Bushido from the experience.

But why worry? Well, the thing is, if your Bushido is not high enough it will be nearly impossible to defeat the end-of-level guardian, and all this puzzle solving and scroll finding would be in vain.

The game keeps the same 3D isometric viewpoint as in previous incarnations, and the sprite location has been improved so that the number of pillars or trees that the characters can walk, fight and pee behind has been increased, with no drop in quality.

Another big improvement is in the sprite detection. Previously, when you felt the need to pick something up you had to be in a pixel-perfect position, but now as long as it can be seen as available to pick up, merely bending down will be enough to grab it.

Graphically it looks pretty slick but it couldn't be called ground-breaking, apart from the apparent depth in the scenery. The gameplay is of a high standard: the puzzles are not as easy as you might imagine, but are of the kind that seem blindingly obvious once they've been solved.

Among this is the fighting of droves and droves of martial arts experts who are more than willing to bend your knee backwards and call you Susan.

Sound is nothing special and you may find that the tune will soon annoy anyone in the area who isn't playing, but some bone-crunching contact effects go some way to make up for it.

But this game is more about gameplay than mind-blowing graphics, and these are more than adequate. It has action and brain-teasing by the bucketload. Well worth a look.

Jools

VISION
Interesting depth effects, but dry backgrounds.

AUDIO
Not a brilliant tune but great contact effects.

PLAYABILITY
Barrowloads of puzzles and truckloads of fighting.

ADDICTION
If you go back once you'll be going back again and again.

90%



The touch of a button can allocate all the designers you need



The option screen where you select your island. The left-hand head is yours, the heads on the right are your opponents



The hole is an open cast mine on this, the third Tech Level

A conquering we must g

MEGA

IMAGE WORKS ■ £30.99

Somewhere at the top of the Universe is a large glass orb. It used to be a six million watt light bulb but it popped about 30 years ago and no one could find a ladder big enough to change it.

Inside this glass orb floats a planet – a watery globe with no more land than 28 small islands.

This planet is in the first stages of humanoid evolution, and four god-like deity types are looking to expand into a new market-place from where they can build a monopoly.

They all happen across this planet at exactly the same time and they decide to take control of 100 men and fight for control of each of the islands one by one.

You can choose to play any one of the four gods and this allows the game to bring in four difficulty levels, the lowest meaning you collect a few rocks and chuck them about until the other side dies, the highest meaning you hang around a bit, invent something slightly more advanced and chuck that about until the other side dies.

This victory will see you becoming the main man of the island, but you then have to go on and try to win the battles for the other two because only by winning all three can you become the head honcho of the Epoch.

The Epoch is what divides the evolution of the planet into nine separate levels. So just how do you go about winning an island?

Well, each Epoch gives you an allocation of 100 men, which you must divide in a wide and sagacious manner between the islands. Once the number of men has been allocated, you must place your first fort in one of the square shaped sectors of the island.

The order in which you and your opponent(s) place your fort is determined randomly. Fortunately, while you fight for every island, not every god does. The size of the island will determine how many of the three opponents fight you for it.

Once you have placed your fort it's time to get down to the serious business of evolution. In the first Epoch you start at the very basic caveman Tech Level circa 9000BC, from there you have some serious decisions to make.

From the allocation of men to this particular island – usually just over 30 – you have little for them to do in 9000BC except design weapons. The more advanced the weapon you set them to design the longer it will take before the design is ready but the more likely you are to advance quickly to the next Tech Level.

Once the weapon is designed you can find out how many your resources will allow you to build. In 9000BC you can build as many rocks to chuck around as you like, but as you progress men will have to be allocated to the mining of various materials so that your designs can be built in sufficient quantities to make a strong army.

When you allocate men to the army you can make a choice of how many bowmen, how many unarmed men, how many men with spears etc, but only if you have the resources.

The army is really your most important asset. Without a strong army you cannot attack with any confidence or chance of success, and the game will soon be over.

However, it may well be wise not to send your army out too early, because men in the field can't breed and swell the population inside your fort. You could send out 25 men very early in the game but then you could wait around and send out 125.

Once you have mobilised the army, with whatever ratio of weapons and men, you then decide which sector of the island to move them into. They can only move into a sector adjacent to themselves or one adjacent to a friendly sector.

If an enemy army is there they will attack it and the computer controlled battle continues until one of the armies retreats or gets wiped out. If the army moves into an empty sector and is left to hang around long enough it will build a new fort, which can then raise its own army, design its own weapons and live independently of the other fort or forts.

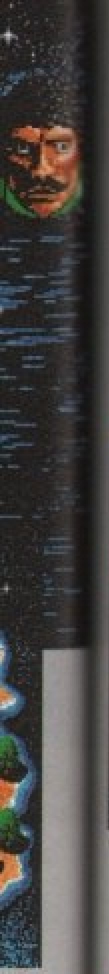
On an island where you fight two or more gods you can offer to ally with one of them to destroy the others. This means your army has less to worry about and can move about more freely as any sectors that belong to an ally are classed as friendly sectors.

Once the other two have had their bottoms kicked you can concentrate on the remaining opponent, your previous ally, and focus your energies on the one





As your Tech Level grows the number of we available to you to develop will increase

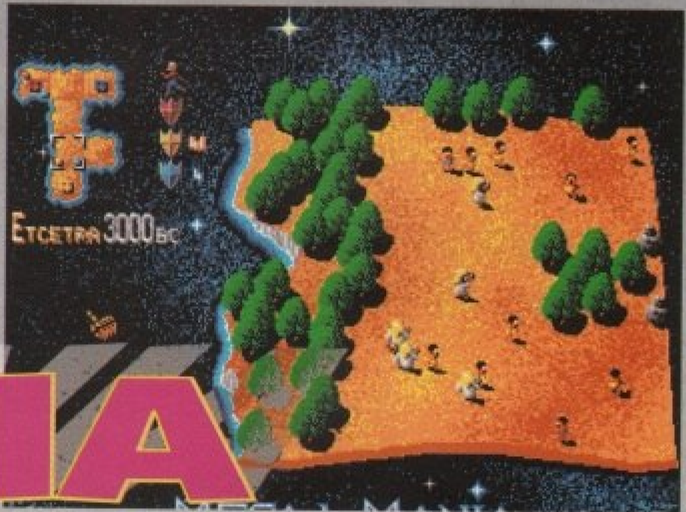




Your army running around



Higher Tech Levels mean more buildings, more substances to mine, and more demands on manpower



Top left is the plan of the island showing the tactical positions of you and your foes

...ust go a conquering we must go...

...ALO-MANIA

.99 1/2 meg • Mouse • Out now

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goal of wiping the floor with this guy gullible enough to ally with you. The fighting remains the most important part of the game at all times, but as you progress through the Epochs and your Tech Level grows in leaps and bounds, other pressures come into the gameplay. You have to look at the allocation of men to designing weapons, to mining resources, to building installations, to guarding the forts and the control of the army. Fortunately the very simple to use point-and-click system makes all this jumping around and number juggling extremely easy and very quick. This swiftness is one of the strengths of the game. For example, should an enemy army invade while the majority of your men are designing a new weapon, you need to be able to allocate them to the army very quickly, and you can.

The ease of use, the growing complexity as you get further into the game, and way you slowly realise how addicted you are make this a very strong game.

The other strengths lie in the graphics and the sound – especially the sound. When each action is completed, or a warning message is necessary, then crystal clear speech spews forth from the monitor in a very stylized manner that evokes the atmosphere of all those ancient Hammer Horror films.

For example, when a design is complete the Chief Designer says, with a charming speech defect: "The design's weady", or "Ergonomically tewiffic". If you attack a sector and win, the Sergeant Major shouts: "We've captured the sector" in a triumphant manner. The Home Guard, worried when under attack, yells: "Tower Critical".

On top of this remarkable studio-quality speech you get this very mellow New Age style soundtrack that The Orb would be proud of, and it helps build on the atmosphere that adds a lot to the game.

GAMER GOLD

Graphically it works very well. Each Tech Level has its architecture and costumes for the chaps who run around fighting each other in this humorous parody of the diddy men (I think).

On-screen at any one time is just one sector floating on an astral background of stars and cosmic gases, complete with pretty trees and looking very glossy overall.

The only thing lacking graphically is the fact that buildings just appear and disappear – there is no degeneration or construction.

It is addictive, highly engrossing, looks great and sounds fantastic. Not only that, it is so simple to play a crab could do it. Let's face it, some god-games are an acquired taste but your dog won't even talk to you if you don't buy this.

VISION
GGGG
Loads of colour and detail but needs more animations.

AUDIO
GGGGG
Incredible speech, and sophisticated soundtrack.

PLAYABILITY
GGGGG
Easy to use, great fun and ridiculously absorbing.

ADDICTION
GGGGG
Epochs of conquering and developing.

93%



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ease

cheat mode

Jason Holborn brings you a collection of white-hot hacks and cheats for your favourite Amiga games



Level	Code
B	EARTHIAN
C	KENICHI
D	INOKUMA
E	BURAI
F	BADMAN
G	NETWORK
H	YOKOHAMA
I	EXACT
J	X68000
K	TURRICAN
L	REDMOON
M	CAMPAIGN
N	MEGAMANN
O	SYVALION
P	FMTOWNS
Q	CHIERIE
R	GAMERION
S	ZAWAS

GEM'X

Cor blimey missus. What have we here? Yep, the complete set of level codes fo Digital Distribution's brilliantly addictive puzzle game Gem'X. The man to than for these codes is John Weston from London.



SHADOW DANCER

Would-be ninjas stuck on US Gold's conversion of the arcade smash Shadow Dancer have Vicky Buckland of Weymouth in Dorset to thank for this great little cheat. It gives you infinite lives.

To make it work, pause the game and type in GIVE ME INFINITIES (including spaces). Your ninja – and his dog – will now be indestructible.

Sounds pretty good to me!

DAYS OF THUNDER AND LOTUS ESPRIT

Talk about weird! Some cheats that programmers code into their games don't always have a positive effect – sometimes they're in there for entertainment value alone. Take, for example, Gremlin's Lotus Esprit Turbo game.

If you enter player one's name as MONSTER and player two as SEVENTEEN, you'll be presented with a frantic little shoot-'em-up.

Amiga Computing reader David Collins from Salisbury has found y another tip that has a strange but am ing effect on Mindscape's film licen Days of Thunder.

To access it, pause the game du the qualifying race and enter COMEF WITHME (with no spaces). Your rac car will then sprout wings and take Just pull back on the joystick and y can have a race with Concorde.

Ooh er missus!

F29 RETALIATOR

You may think you're pretty hard in your F29 Retaliator, but it only takes a single SAM up the bottom to bring you crashing to the ground.

To make life in the air a little easier, try this great cheat sent in by Amy Hutchinson – I don't know where she's from because she didn't include her address.

The tip arms your plane to the teeth with an absolutely disgusting amount of weaponry. To make it work, enter your name during enrolment as CIARAN.

When you press Return, it will change to OCEAN OK, which means that the cheat has been accepted. Now all you have to do is to start the game, get up into the air and start kickin' some butt!

TOKI

Ocean's conversion of the arcade hit Toki is a pretty tough challenge for even the most experienced gamester, so this cheat from Andrew Hammond of Frome in Somerset is sure to please.

To get infinite lives, start the game, then type KILLER. An extra benefit is that you can now also skip levels by pressing F1 to F8. Nice one Andy!

CHUCK ROCK

Unga bunga! Poor old Chuck Rock may not be a prime candidate for Mensa, but he's a pretty tough character. To make his life slightly easier, try these cheat codes sent in by Tom Atkinson from Manchester.

They must be entered during the title screen – the one with the band. Thanks Tom!

ESTRANO	Gives Chuck some wings.
MORTIMER	Select zone using the function keys.
TURN FRAME	Select level using number keys
FAST AINT THE WORD	Infinite energy

NIGHT BREED

Considering the popularity of the film and the fact that Commodore bundled the game with the A500, very little has been seen in the way of cheats for Ocean's film licence of Clive Barker's Night Breed. Until now, that is. If you enter RISEN FROM THE DEAD (with spaces), you'll get infinite lives.

Calling all tipsters!

If you're the kind of person that can walk through Rainbow Islands, thrash Lotus Esprit and get home in time for Neighbours, then you're the kind of person we want to hear from.

We're after tips for brand new games, particularly those reviewed within this issue of Amiga Computing.

Not only will you be internationally famous, but you could even win something!

Send your tips to: CHEAT MODE, Amiga Gamer, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP. Right, put down that joystick and get writing!

APPRENTICE

The life of a wizard's apprentice isn't all it's made out to be, but with these codes sent in by Mathew Evans of Ludlow, you'll be casting spells with the best of 'em.

Anyway, enough gibbering, here are the codes – **WIZARD, SPELLS, ARCANE, DRUID** and **FAERIE**.

THE DREAM TEAM...

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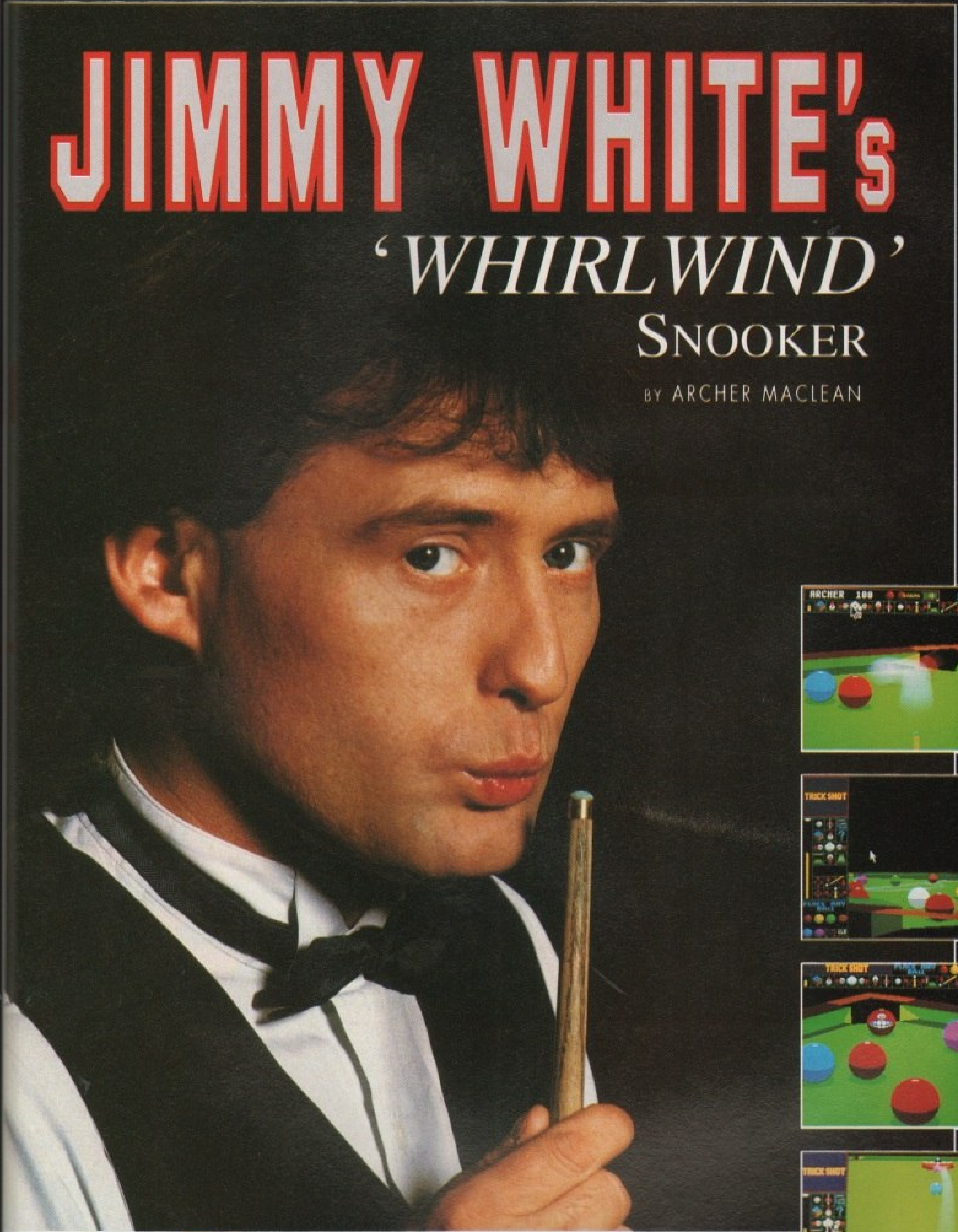
"Winning isn't the most important thing that matters – It's the only thing"

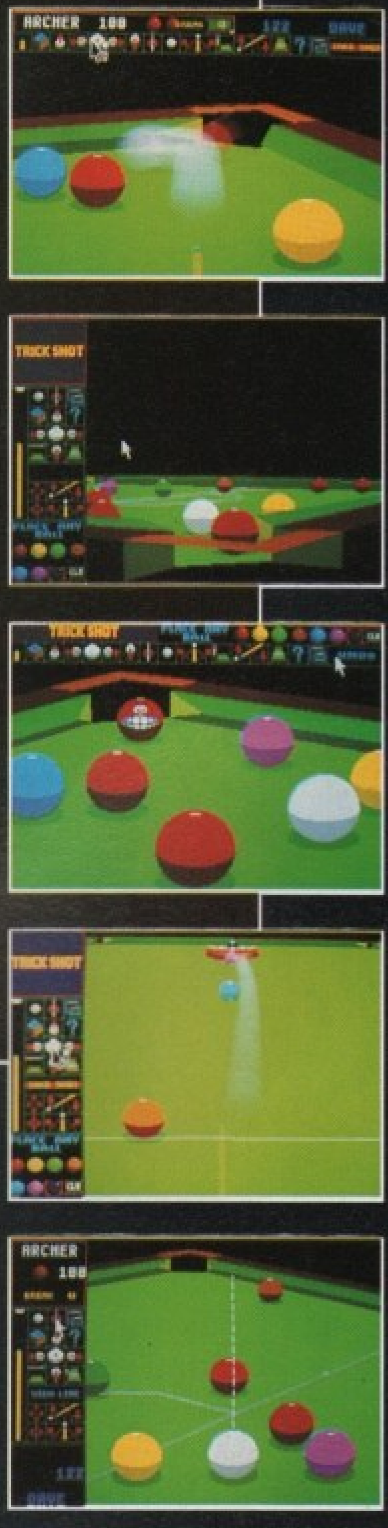
JIMMY WHITE'S

'WHIRLWIND'

SNOOKER

BY ARCHER MACLEAN





ACE 930 • THE ONE - 95% • ZERO - 93% • C&VG - HIT • AMIGA POWER - 90%

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Phil South ......Amiga Shopper Aug '91

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To find out how to turn three bits of cardboard into £2 just turn over...

PLATFORM

Batman
Ocean

Type in **JAMMMM** on the title screen for infinite lives



Ghostbusters II
Activision



Press **Control, Alternate, S** and **U** simultaneously when the Activision screen apears for infinite courage on level one and infinite slime on level two.

Indiana Jones and the Last Crusade
Renegades

Enter your name as **SILLYNAM** to receive infinite lives.



SHOOT-'EM-UP

Swiv
Strom

Infinite lives
Here's a handy hint for anyone who can't make it to the end of the game. Pause the game and type in **NCC-1701** for infinite lives.



Battle Squadron
Innerprise



Type in **CASTOR** at any time to activiate the cheat mode.

Untouchables
Ocean

Type in **SOUTHAMPTONGAZETTE** and then press **F10** during the game to skip levels. Pressing **Help** on levels 2, 3 and 6 puts you half-way through the level.



BEAT-'EM-UP

Double Dragon
Virgin

Plug in two joysticks, start a two player game then press both **fire** buttons and **Escape** for infinite credits.



Ninja Warriors
Virgin



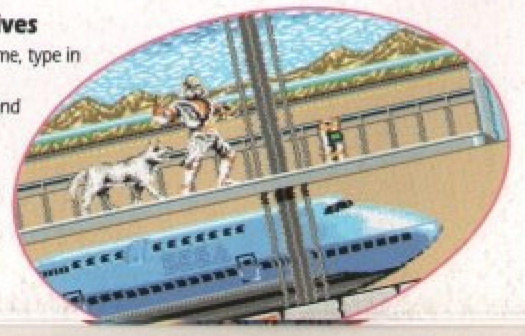
Hold down Alternate and type **MAY THE FORCE BE WITH YOU** for infinite energy, remembering to incude the spaces. Alternate and **GENESIS OF THE DALEKS** inverts the screen.

Alternate and **SKIPPY** makes the enemies bounce. Holding dow Alternate and keying in **MONTY PYTHON** makes the enemies appear backwards on screen.

While playing the game, press **CAPS LOCK** and type in **CHEDDAR**, release **CAPS LOCK** and voila: infinite credits

Shadow Dancer
US Gold

Infinite lives
Pause the game, type in **GIVE ME INFINITES** and hit Return. When you unpause the game you will be totally invincible.



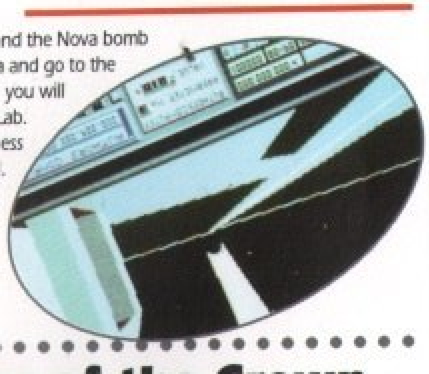
GAMER GAMER GAMER GAMER GAMER

SIMULATION

GAMER HAKPAK

Damocles

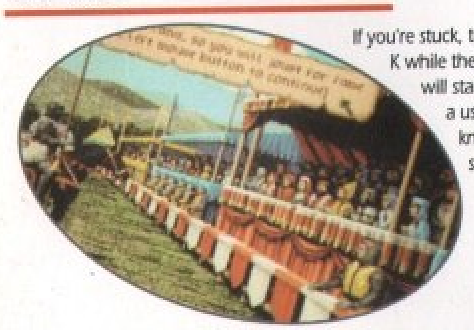
Novagen



If that first Nova Trigger and the Nova bomb still elude you, fly to Gaea and go to the Ur City. At location 07 01 you will find Professor Hantzen's Lab. Use the B key to gain access and collect the sideboard. Turn it on and it becomes the Nova Trigger. If you now fly to location 09 02 you will find the Nova Bomb

Defender of the Crown

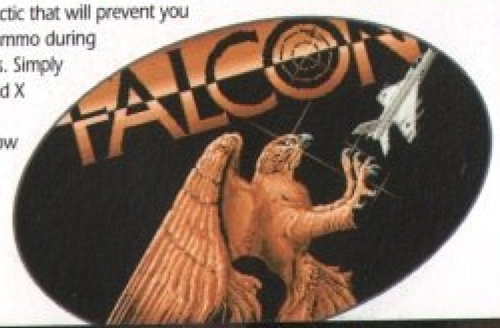
Cinemaware



If you're stuck, try holding down K while the game loads. You will start the game with a useful 1,024 knights and soldiers.

Falcon

Mirrorsoft/Spectrum Holobyte



Here's a tricky tactic that will prevent you running out of ammo during vicious dogfights. Simply press Control and X simultaneously when you run low on ammunition in order to replenish your stocks.

PUZZLE & QUIZ

GAMER HAKPAK

Brat

ImageWorks

A useful hidden cheat, but first the passwords: **NOKITAGO** will take you to level 5, **ZUMOHATO** gets you to level 10 and **NAGA TSU** puts you on level 12 (the last level).

If you press 1 and full stop on the keypad at the same time as pressing slash – that's the symbol that shares a key with the question mark – and the asterisk, which can be found on the same key as 8, on keyboard, you can skip to the next level.

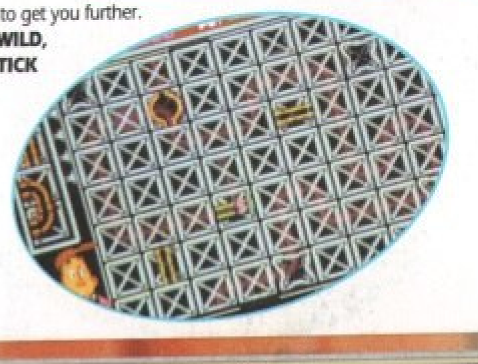
Klax

Domark

During play, hold down the spacebar and the number 4 key to warp through to the final level.

Pipemania

Empire



Try these codes to get you further. **BALL, BLOB, WILD, DOCK, GRIP, TICK** and **OOZE**. Incidentally, filling the screen with your pipes will give you a 50,000 point bonus.

SPROTS

GAMER HAKPAK

Beach Volley

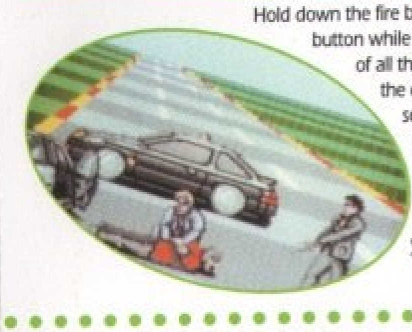
Ocean



Type in **DADDYBRACEY** during the game, then to skip a level press **F1.** You have to re-enter the cheat code every time you wish to skip a level

Chase HQ

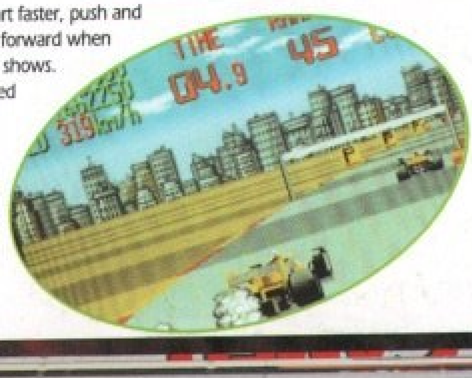
Ocean



Hold down the fire buttom and left mouse button while entering GROWLER. Let go of all the keys and press T to reset the clock and press the spacebar several times to boost your speed to an incredible 900 miles per hour. If you press the spacebar several times on the music select screen you get some turbos for free.

Continental Circus

Virgin



To make your start faster, push and hold the joystick forward when the first red light shows. On the second red light release the joystick, and as soon as the green light shows, push the joystick forward again.

How to get your HAKPAK filer folder

After literally minutes of practice the Gamer team have mastered a magic trick of Wayne Dobson-like proportions. Yes, you send us three tokens (token 1 with this issue) and a cheque or postal order for £1.99 and we'll change them into a smart **Hakpak filer folder**. Make cheques payable to **Europress Direct** and sent to:

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GAMER GOLD **TOKEN ONE**

GAMER HAKPAK — SHOOT-'EM-UP

The Light Corridor
Infogrames

Tyep in these codes to get to the acscribed level.
Level 10: **3305**
Level 20: **6811**
Level 30: **5518**
Level 40: **1825**
Level 50: **9932**



Midnight resistance
Ocean



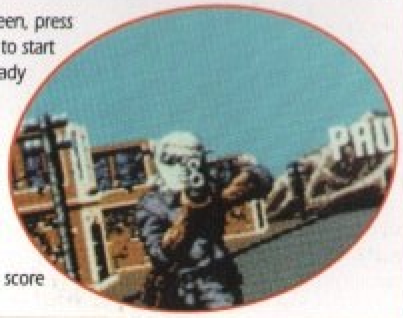
When you get to the title screen, type in as one word **ITS EASY WHEN YOU KNOW HOW** to receive infinite credits

Operation Thunderbolt
Ocean

When you get to the title screen, press **F8** and fire at the same time to start the game with your gun already fitted with a laser sight.

When you get to the high score table type in **WIGAN NINJA** to gain infinite continues.

Although not a cheat, this last code is amusing: type in **SPECCY MODE** on the high score table.



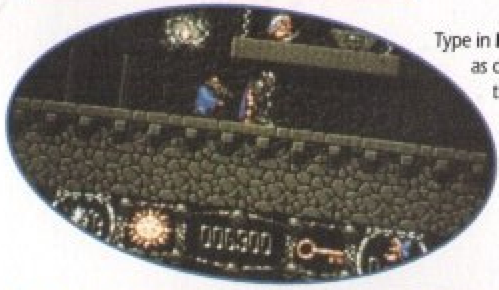
GAMER HAKPAK — PLATFORM

Night Shift
Lucasfilm Games

Here is a collection of level codes to get you to the higher levels.
Level 5: **Pineapple, Pineapple Lemon, Cherry.**
Level 10: **Lemon, Banana, Plum, Plum.**
Level 13: **Plum, Cherry, Banana, Pineapple.**



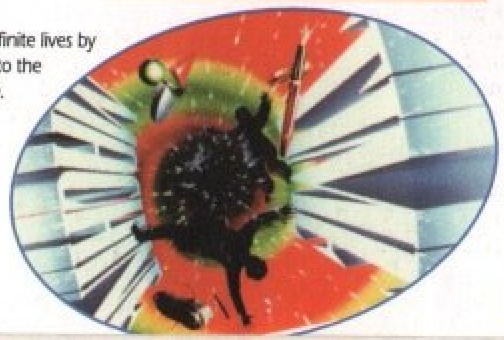
Stormlord
Hewson



Type in **DRAGONBRIDGE** as one word and start the game. Press space to pause and then press L to advance a level.

Time Machine
Activision

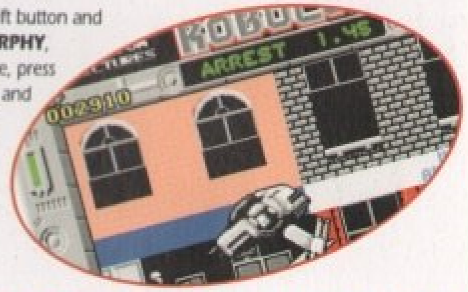
You can gain infinite lives by typing DIZZY into the high score table.



GAMER HAKPAK — SHOOT-'EM-UP

Robocop
Ocean

Hold down the shift button and type in **ALEX MURPHY**, including the space, press fire on the joystick and then press the left mouse button to restore your energy.



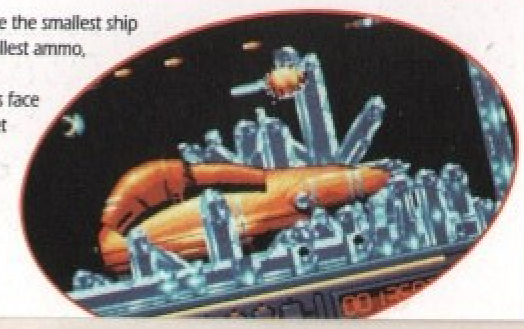
Strider
US Gold



First press **F9** to pause the game, then hold down Help, left shift and 1 and then unpause the game. Pressing a number between 1 and 5 will take you to the corresponding level. Keys F1 to F5 will take you to the flashpoint of the corresponding level.

X-Out
Rainbow Arts

If you choose the smallest ship and the smallest ammo, click on the shopkeeper's face – you will get 500,000 credits.



GAMER GAMER GAMER GAMER GAMER

PLATFORM

GAMER HAKPAK

Back to the Future II

ImageWorks

First, pause the game. Second, type in **THE ONLY NEAT THING TO DO**, including spaces between words. Finally, unpause the game for infinite McFlys. If you get stuck on any level, press 2 to skip to the next

Ghost 'n' Goblins

Elite

Type in **DELBOY** when the credit screen appears. The words CHEAT MODE ACTIVATED should now appear onscreen and you will become invulnerable.

Monty Python

Virgin

If you enter **SEMPRINI** on the high score chart you will continue from the level at which you died when you restart the game

Car-Vup

Core Design

To activate these cheats, you must go to the high score table and enter these words to get some strange effects: Type in **BUMPER** to receive infinite bumpers; **PUSSY CAT**, including the space, to gain infinite lives; **ARNIE** to receive 100,000 points; **WOOARRGGH** to make your car able to withstand high speed turns; and finally **WHOOPSIE** which allows you to start on the prehistoric level

PUZZLE & QUIZ

GAMER HAKPAK

Lemmings

Psygnosis



On the title screen type in **FQUIGGLY** to make the lemmings stop their suicide runs.

FUN

1 ....–	11 ....OHODHCELCS	21....NNHCAKOFDV
2 ....KJJLDLCCCN	12......KMDLCINMCL	22.......FLCMKLLGDJ
3 ....NJLDLCADCY	13 .....MDLCAKLNCS	23 ......LCENLLFHDV
4 ......HNLHCIOECW	14.....DLCLINMOCM	24 ......CMNMLFLIDP
5.........LDLCAJNFCK	15 .....LCAOLMDPCY	25.......CCLIMFLIDQ
6 ....DCLCAJNFCK	16 ...CMOLMDLQCV	26 ....LIJMFLCKDX
7......HCAONNLHCX	17 ....CEJHLFLBDX	27 .....NJMFLCCLDW
8 ....CINNLDLICJ	18 ....KKILFHCCDM	28 ....HMFHCIOMDY
9.......CEKHMDLICO	19 ....NJNNHCADDR	29 ...MNHCAKNNDL
10 ......IKHMDLCKCT	20 ......JLFLCKNEDW	30 ....FLCOKLMODU

TRICKY

1 .....HCGOLONPDX	11 ....CEKKOLLIEK	21 ....OHLFMCADFN
2.......CMOLMGLQDJ	12.......IKHMEMCKEX	22.........ILFMCKOEFJ
3.......CMOLMGLQDJ	13.......OJOLICCLEN	23.......LFMCEJMFFT
4.........IKHLDMCCEN	14...HMDMCIOMEM	24.......GICKKOLGFK
5.........OHNLIBADEP	15 ...MDMCGJMNEL	25 ....MCGNMLFHFL
6..........IDLMCIOEEU	16 ....LMBLIOOOEJ	26 ....BKOMNFIIFO
7.........LDMCCJNFEP	17 ....KCCOMMLPEU	27........CALIMGMJFS
8 ....EMCLIMLGEW	18 ...CKNLMDMQEV	28 ....KKKOOICKFV
9.......MCEOLLDHEW	19 .....CCKHNNKBFR	29...OHMFMCALFW
10 ....CMNLLEMIEP	20 ....LIJLGMCCFS	30 .HMGMCMOMFU

TAXING

1.......MFMCGKLNFO	11.....LGANOLDHGJ	21 ...GGKHNNHBHY
2.......GMCOKLMOFY	12 .....GKNOLDLIGU	22 ....KJJLFNGCHK
3 .....MCANMMFPFO	13.......GAJIMMHJGX	23 ...NJLGNGADHW
4.......CINOMGMQFK	14 ...OKHMDNGKGT	24...KNOHGOOEHL
5.........GEKKNMJBGJ	15 ....OIMELGALGK	25....LFNNGCJNFHJ
6 ....KJILDLGCGU	16...HMDLGKOMGT	26........GNGULLGHP
7........NHNLJGCDGY	17 .....MELGCKLNGN	27 .....HFANLLFHHU
8 ....ILDLGMOENGN	18......DLGLIOMOGV	28 ....FINLLFHIHN
9.........LDLGCJOFGV	19 ...LGENMMDPGU	29 ....FAJHMFHJHP
10 ......ENGLINLGGO	20 ...GKNNOLHQGS	30.......LIHMFMFKHG

MAYHEM

1..........NJMNLFELHX	11 ....LDIFAJLFIO	21 ....IFANLMDPIN
2.........HMFJFINMHQ	12.............DIFULLGIX	22........FINLMDIOIW
3..........MFHFAJLNHX	13 .....MGCNNLEHIO	23 ....FAJHLFIBJJ
4 ....FHFULMOHQ	14.............FINLLDIIIN	24 ....LIHLFIFCJS
5 ....HFANLMFPHN	15..........FAJHMDUIP	25.........NHLFIFADJP
6 ....FINLMFHQHW	16 ....LIHMEMGKIO	26............HLFIFINEJY
7 ....FAJHLDIBIW	17.........NHMDIFALIV	27 ....LFIFAJLFJR
8..............LIHLDIFICIP	18 ....HMDIFINMIO	28............FIFULLGJK
9..........NHLDIFADIN	19 ....MDIFAJLNIX	29.........IFANLLFHKX
10 ....HLDIFINEIV	20 ....DIFULMOIQ	30.............FINLLFILIQ

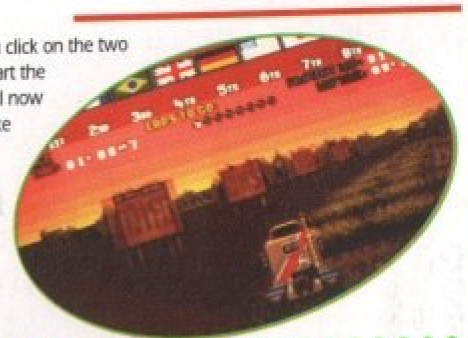
SPROTS

GAMER HAKPAK

Drivin' Force

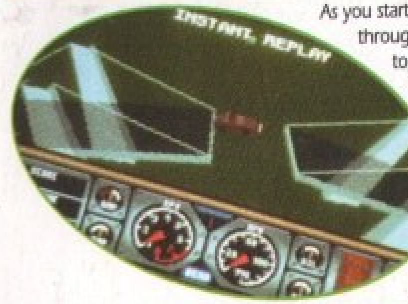
Digital Magic

On the main menu click on the two i's of Drivin' and start the game. Your car will now stick to the track like glue.



Hard Drivin'

Domark

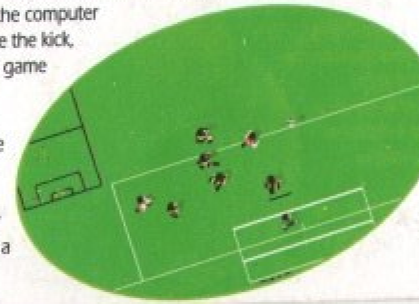


As you start the race, accelerate through the manual gears to the top of the hill and slam it into neutral as you come over the brow. You'll now go around the speed track without skidding.

Kick Off 2

Anco

This will prevent the computer opponent scoring during penalties. As the computer player runs up to take the kick, press **R** to replay the game and you will see in which direction the ball will go when the shot is taken. This gives you time to position your keeper and hopefully make a decent save.



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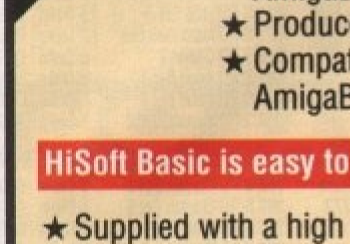
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"Is it real or is it Master Sound?"

– Amiga Computing, May 1990


Bad spelling to cost pupils exam marks

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There's mounting alarm about the appalling standards of spelling among Britain's schoolchildren. MPs, teachers, parents and employers are all stressing the vital importance of being able to spell correctly.

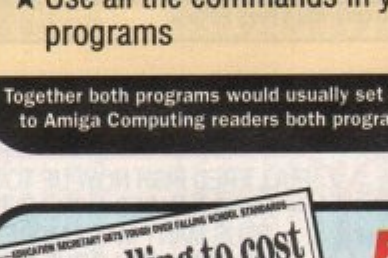
Yet most homes have what could be the ideal means of teaching spelling – the computer.

Instead of zapping aliens it could be turned into the best weapon of all to deal a body blow to bad spelling. With the help of a brilliant new software package that not only makes practising spelling painless but also loads of fun as well.

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FIVE ways to improve your spelling

In a Flash: Read the word as it flashes on the screen, then type it in. For practice runs, the word is left on the screen as it is typed.

Rocket: Hidden words have to be discovered in this hi-tech version of the old favourite Hangman. If they are guessed correctly the rocket will blast-off. Fail and all that's left is a load of scrap.

Lunar Buggy: Type fast for fun. The aim is to key in the word as it's pulled across the screen by the buggy. It has to be completed before the letters drop down a crater.

All Mixed Up: Jumbled letters have to be sorted out to find the scrambled word. To help beginners – and anyone else who is stuck – clues can be obtained at the press of a key.

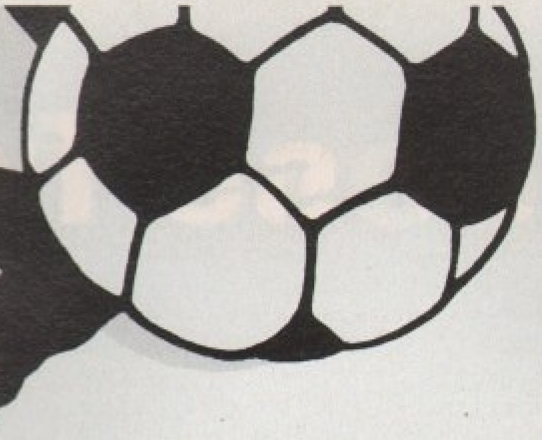
Conveyor Belt: Words pass by on the screen and have to be remembered. Then they must be typed in – spelt correctly. This is a challenging test of both spelling and memory.

All the programs have several options for extra flexibility – like a timer with on/off option to add that extra challenge.

In addition to using the 5,000 words provided, parents – or children – can create their own word lists for using with SPELL! This makes the package ideal for practising those hard-to-learn words, or for "Learn these spellings" homework.

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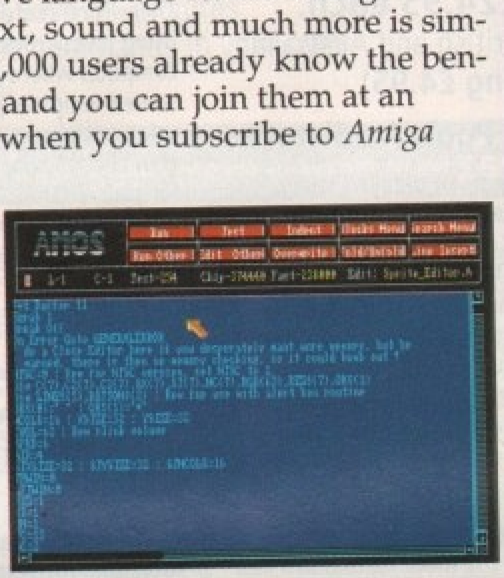
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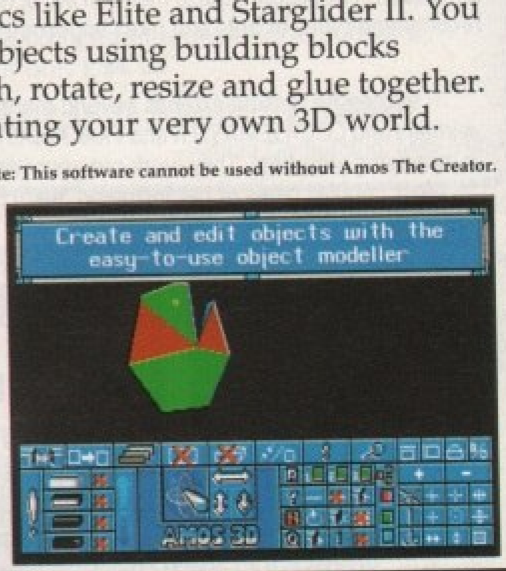


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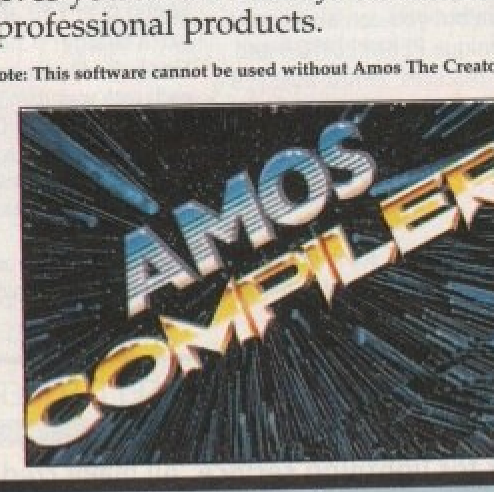


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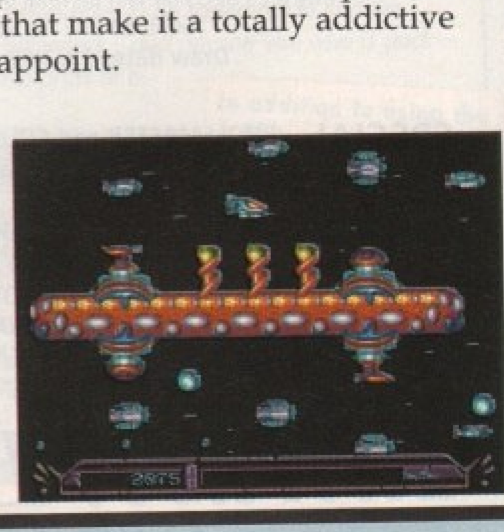
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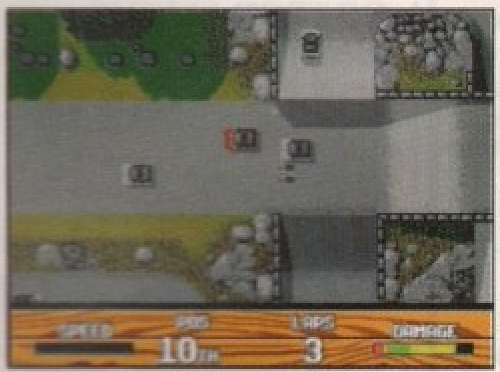
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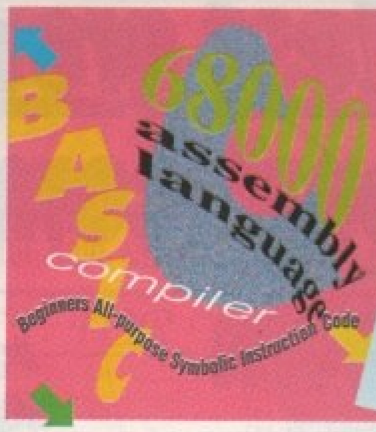
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Back to basics

In the first of his three part guide to programming languages, Paul Overaa looks at how Basic shapes up on the Amiga



Over the next three months I'm going to be having a brief look at the more popular Basic, C and Assembler offerings for the Amiga. As well as commercial products I'll look at some of the PD offerings and try to offer advice about the advantages and disadvantages of particular languages.

With Basic, for instance, it doesn't really matter whether the language is good or bad from an academic viewpoint. What matters is whether it will suit your purpose. If you want to write super-fast graphics then you'll find Basic a poor choice. If you're new to programming and want to find some way of making a start then Basic becomes a very good choice.

Don't think for a moment that a language must have access to Amiga graphics and sound to be any good – there are plenty of reasons why you might not need those Amiga-specific functions. If, say, you are involved with programs which must be moved from machine to machine then you'll want to avoid as much machine-specific stuff as possible.

Another reason why integration into the Amiga's environment might not be that important is if you just want to learn about languages in general. You might be studying computing at school or college and want extra practice at home, in which case you will invariably be required to provide straightforward code, free from the complications that Intuition objects, such as gadgets and menus, provide.

One thing I should mention is that most of the time you'll only find qualitative comments about speed in these articles. I do not find benchmarks a useful measure of the strength of a language.

Marginal speed differences are rarely important and the areas, such as graphics and intensive mathematical calculations where benchmark calculations can usually help, seem on the Amiga to be a less useful measure of interpreter and compiler performance because it is usually the Amiga's library routines which are doing the real work.

All the interpreter or compiler has to do is push a few values into the 68k processor registers and then make a call to the appropriate library function.

This, incidentally, is one of the reasons for some compiler/interpreter speed benchmark comparisons showing little difference!

Microsoft Amiga Basic

This as you will no doubt know is an interpreted Basic. It comes in for a lot of stick and some of the complaints, mainly the general slowness of the editor's window redrawing and requester-based syntax error delivery, are undoubtedly justified. Amiga Basic is, however, supplied free with the machine. Most Basic programmers, once past the initial stages, do not go from line to line making syntax errors and one way around the editor problem is simply not to use it.

I frequently write my Amiga Basic programs using Lattice's LSE editor and only read them into the Amiga Basic interpreter when they are ready for final checking.

Hisoft's Basic Compiler

There are good reasons for choosing a compiler that will compile programs written in Microsoft-style Basic and the Hisoft offering is just such a compiler. It comes with its own editor which has none of the slowness of the original Microsoft offering and there is also an Extend package available which provides some much needed support for gadgets, requesters, graphics, sound and IFF file programming.

Hisoft's documentation is good and, as with all Hisoft packages, some implementation notes and appendices useful to the more advanced programmer are included.

If you have an interest in program portability then the Hisoft compiler is clearly the one to go for. The reason for this is simply the continued prominence of Microsoft-style Basic in the micro world.

As well as the obvious ports of things like Microsoft's QuickBASIC, the ST version of Hisoft etc, there are many other links. I've even taken programs written in BASIC 80 which was supplied on an 8085 based machine called a Rair Black Box – bet you've never heard of that one – and they ran virtually unchanged.

In general, porting all Microsoft-style Basics to the Hisoft compiler is a piece of cake and this, from a long term viewpoint, can be very important!

Cursor V1.0

One public domain offering which you might find interesting to look at is the Cursor package which is available from Akore as disk UT 4147. Cursor is a three pass Basic compiler for programs written in Amiga Basic.

While on the subject of PD, one of the best ways to learn Basic is to look at the code other programmers write. There are loads of Basic PD disks and the PR 9072 and UT4168 disks, also available from Akore, are particularly good.

GFA Basic

Despite all the good things that can be said about the Microsoft orientated offerings, it is true to say that there are still a great many things which can only be achieved by using the Amiga's library routines. This, for a great many Basic programmers, is a significant stumbling block. GFA Basic, from DataMedia UK, has undoubtedly solved a great many of these difficulties by providing extensions to the language which make the programmers' job easier. In some cases these allow the Basic programmer to do things which were seemingly impossible in Amiga Basic itself – especially in the graphics and sound departments.The main GFA Basic package is interpreter-based with the GFA compiler being an add-on/upgrade. The interpreter documentation, which comes in A5 ring-binder form, is very comprehensive and the compiler instructions are provided as insert pages which are then added to the existing interpreter manual.

Long standing problems, like converting IFF files to Basic Objects – the same format, incidentally, as used by Microsoft's Amiga Basic – are solved by utilities provided with GFA Basic. The only real disadvantage of GFA Basic is that the GFA extensions effectively render the code non-portable.

When you look at the alternatives, however, this is neither here nor there. If you used Microsoft Basic and worked out how to do the same things using library calls you'd still end up with the same lack of portability!

GFA Basic is brilliant and if you want to make the most of the Amiga environment, and the prospect of moving into the world of C and Assembler seems frightening, then this Data Media offering is the way to go.

There are, however, a couple of other offerings which are more directly targeted at Basic programmers who want to write games.

Blitz Basic and AMOS

Blitz Basic is a compiled version of the language and deserves a mention because it is fast – probably the fastest Basic around. This makes it useful for games code but as a language it is not particularly sophisticated in terms of the type of code constructs available.

AMOS, as you probably know, is designed primarily for games writing and is interpreter-based. It already has a strong following and this is likely to increase. There is, incidentally, a compiler version due out in the near future.

Last words

Whatever Basic you opt for, one thing is certain – you should make a point of knowing something about the core commands of Microsoft's Amiga Basic. Microsoft Basic is still regarded by many as the de facto standard and anything you learn in this area will stand you in good stead on various machines for many years to come.

Microsoft's Amiga Basic Interpreter
You effectively get this for free since it's bundled with the Amiga.

AMOS
Interpreter £49.99
Compiler due soon £29.99
(Contact Mandarin Software on 0625 859333)

Blitz Basic
Compiler £69.99
(Contact Siren Software on 061-724-7572)

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(Contact Data Media UK on 0734-794941)

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Cursor Basic
Compiler £2.49 plus p&p
(Contact Akore on 0800-252221)



QuickLens enlarges your window on the Amiga world

Dave Windera looks at what the Amiga has to offer computing's disabled community

Disabled Options

Although I may be seen as being severely disabled through most people's eyes, I would strongly argue that I have plenty of ability. The truth of the matter is that the majority of people with disabilities are bursting with ability – it is just that society does not provide the access to allow that ability to be used.

I have been Tetraplegic for the past two and a half years, the result of a rare virus. During this time I have had to look at computing from a totally different perspective than the one I was used to. I will be looking at some of the ways that help to make the Amiga accessible to disabled people.

Alternative input

Let's take a look at some input devices first – after all, the computer is rather useless unless there is a way to actually operate it. The standard mouse is of little use to most people with any severe motor disability, or those whose strength is poor.

Taking my own case as an example, I have the full use of one arm but my body movement is weak. Moving a mouse around the desktop gets pretty tiring after a surprisingly short time.

The solution for me was a trackball, which is basically a mouse turned upside down. Instead of moving the mouse around a mat, with a trackball you only move the ball using the thumb. The Marconi RB2 is a pretty good buy, as it is solidly built (mine has survived many drops onto the floor) and has a third button.

This can be used for dragging windows and icons around the WorkBench, making one handed operation easy. I know a number of people who manage to use this type of trackball quite efficiently using a mouth-stick, which is exactly what it sounds like.

Another alternative can be found in the form of the Concept Keyboard 2000. This is basically a touch sensitive keypad with up to 256 user definable keys. Using Think Ltd. Overlay Designer and Manager software, just about any application can be accommodated.

The gridded surface of the keyboard can be customised using standard A4 paper overlays. These are placed on the surface of the keyboard. The information on the overlay corresponds with the programmed keys beneath.

Using this principle it would be a simple matter for someone with, for example, severe speech and motor disability who has been using a mouth-stick in conjunction with a word board (where letters and commonly used words are mapped out on a board, and in order to communicate the user spells out his comments by pointing at the relevant letters) to be able to use a word-processor without a steep learning curve.

> *"Wouldn't it be terrible if all the advantages of computer independence were swept away in the name of progress?"*

The possibilities are endless with the Concept 2000. A Braille overlay could be designed for blind users to enable them to input data, for example. A series of preprogrammed overlays is provided for use with the "Class of the 90's" applications. For details of price and availability of the Concept 2000 contact HB Marketing Ltd on 0753 686000, and for the Overlay Designer contact Think Ltd on 021 384 4168.

Key depression

If you can imagine trying to use a computer when you have very restricted or uncontrollable movement, then one thing you would want to avoid is too many keypresses. There are a number of solutions to this problem, and some even come freely with the Amiga.

The simplest method is to use the Alias command from the CLI, which allows you to replace commonly used strings with a shorter single command of your own. I won't go into any detail as I am sure that Stevie Kennedy has covered this in his excellent "Beginners Guide to the CLI" series. Scripts are another example of using the Amiga's OS to run a complex series of commands by executing a script from a simple name.

There is also a PD program that has been around since the Amiga was first available, or at least it seems that way. The program in question is called FuncKey, and it basically allows you to program the Function keys on your keyboard.

Each key can contain a number of macros by being depressed in combination with other keys. The program is ever so easy to set up, as you can see from the screenshot, and if programmed wisely with the commands you use most often it soon becomes indispensable.

The final program I will mention, and there are many like it, is SID. This is available as part of the *Amiga Computing*



Function key macros can save a lot of key depressions

WorkStation disk, and is worth every penny.

SID was the first Shareware program I registered and I would advise everyone to do the same so Timm Martin can continue to develop such useful programs.

SID saves all the typing that would otherwise be needed to ensure good disk/file management. All the usual commands such as copy, move and makedir are here as well as many extra ones. All you to do is point and click.

First sight

There are also a number of ways that the Amiga can be used by people with visual impairment. As a result of my illness I am partially sighted, although my eyesight is a lot better than many people's.

Two solutions automatically spring to mind when thinking about this problem. The first is speech synthesis, which I will come back to in a while. The second is that of text enlargement. There is a program built into the machine which has the ability to display and print in large text.

Of course, I am talking about Notepad. It is free, and it works, but it is very limited if you are thinking of trying to use it as your main word processor. However, many of the commercial word processors can display and print large text.

Ones to look out for are the graphic based programs such as Pen Pal, Kindwords, Pro-Write and also the very recently released Wordworth. Because I can only actually use one arm, I hit upon a snag when it came to writing letters. It is pretty damn hard to type capital letters, using one hand to try and hold down the shift key and type the character you want.

The answer was found in my word-processor of choice, Protext 5, which allows the keyboard to be configured in such a way that the Ctrl, Alt and Shift keys become sticky. The upshot is that when you depress one of these sticky keys the next key pressed acts accordingly.



Helping the Amigas talk sence



File handling made easy with sid

What about using the Caps Lock, I hear you ask. Well the sticky shift is one less keypress, so keeping the all important movement to a minimum.

Another text enlarger, which just so happens to enlarge graphics as well, comes in the form of a PD program called QuickLens. There are a number of these "lens" type programs about, but this is the one that I personally have found to be most useful.

It acts in much the same way as those flat perspex magnifying sheets you can buy to read books etc. You can make the QuickLens window as large as you like (the size gadget is there but is invisible), and as you move the pointer around your WorkBench or document, whatever is underneath becomes magnified.

The magnification level is set by clicking the mouse inside the QuickLens window and can be normal size, x2 or x4. The screenshot on the opposite page shows icons on an interlaced WorkBench being magnified in the QuickLens window by a factor of four.

Talking Amiga

I mentioned speech synthesis in passing earlier, and now it's time to take a closer look. The biggest single thing in favour of the Amiga as a serious machine for people with disabilities is the speech capability.

The most unfortunate drawback, though, is that very little software has been written that takes full advantage of this. Surely there are not that many differences between writing screen reader software for an MSdos machine or an AmigaDOS machine? It is one area where I cannot understand, given the technology built into the machine, why it has not been fully exploited.

Some programs do make use of the speech aspect, and the new word-processor Wordworth is notable in that it allows the screen to be read out loud! Perhaps it could be something for the programmers of word-processors in particular to sit down and think about. How about a program that would allow words to be spoken as they are typed, with a built in AI that could learn how quickly the typist inputs data and adjusts its speech rate accordingly? How about a talking spellchecker, or even talking preferences? Surely it must be possible?

There are two PD programs that are worthy of a mention when looking at speech. The first is that golden oldie, SpeechToy. Although many years old now, SpeechToy is still extremely useful to anyone thinking of incorporating a speech element into an application for people with visual impairment.

What it does, quite simply, is translate between an input of English and an output of Phonetic language.

The second PD program I will mention is called Speaktime, and that is what it does. When called the program uses speech synthesis to tell you the time in the "it's almost five past ten" style. A useful replacement for the Workbench clock if your eyesight is poor.

I won't pretend that this is the last word on the Amiga as a tool for disabled people, because I am sure that things will continue to develop. I have not even touched on the field of learning difficulties, as this is an area I know very little about.

It would seem apparent, given the volume of educational software being written and the emphasis from Commodore, that the Amiga will succeed in this fiercely competitive sector of the market.

I hope that Commodore will fund the necessary research and development required to ensure that the Amiga takes its rightful place alongside the PC and the Macs, and to enable people with disabilities to gain the full advantages that the Amiga can offer.

It is not all roses though. I am not alone in being concerned with the problem of making Graphical User Interfaces fully accessible to the blind. Wouldn't it be terrible if all the advantages of computer independence were swept away in the name of progress?

Further information

Further information on computers and disability can be found from the following sources:

BCS

The British Computer Society Disability Programme is a group that works with the computer industry to show how everyone can benefit when access for the disabled is built into a design – voice activation for example. The Programme also acts as an information source on all subjects in the field of computers and disability.

As well as a quarterly Journal, *Ability*, conferences and meetings, there is also a telephone helpline service.

The Disability Programme has an active area on the PolyNet Bulletin Board which is on 071-580 1690. The echo is also carried to other FIDONET Boards.

CIX

If you have access to CIX, the Group have a conference with an Amiga topic which I moderate, by the name of "d.programme".

For more information write to me at: Dave Windera, Membership Secretary, BCS Disability Programme, 1 Thomas Wall Close, Sutton, Surrey SM1 1SP. Or by E.Mail as dwindera @ cix and on Prestel Mbx No 011115216

ICPUG

ICPUG (The Independent Commodore Products User Group) is one of the best sources for PD software, as well as help and advice from experts. ICPUG has a Disability Liaison Officer, David Bates.

For more information write to: Jack Cohen, Membership Secretary, ICPUG, PO Box 1309, London N3 2UT.

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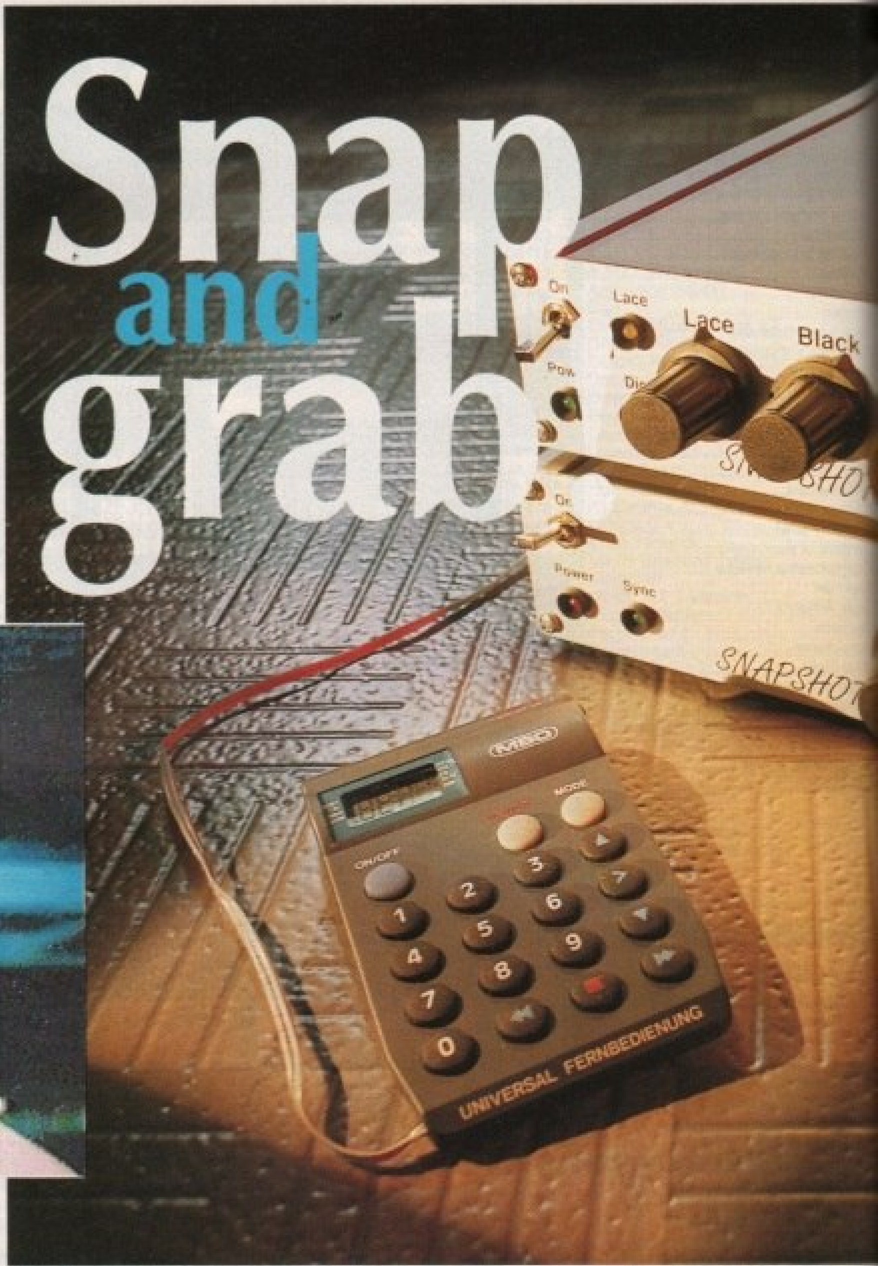
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Amiga Computing October 91

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Snap and grab!



What? Not another video digitiser! With so many now available, the video digitiser is rapidly becoming one of the most popular devices produced for the Amiga. And they certainly seem to be selling too – NewTek's DigiView has become one of the most popular Amiga products ever, with units used throughout the world.

Is there room for yet another digitiser? HB Marketing certainly seem to think so because they've just begun distributing a brand new digitiser from German manufacturers VDT – don't ask me what it stands for! Its specification sheet certainly makes for impressive reading, but does it make the grade? Well, there's only one way to find out

Hardware heaven

SnapShot Pro is a real-time video digitiser that allows you to grab full colour and monochrome images directly from just about any composite video signal, including both a domestic video recorder and a colour camera. OK, nothing special so far, but SnapShot offers some remarkable facilities which really make it worth checking out.

The SnapShot hardware consists of two separate boxes – the digitiser unit itself and an extra box called SnapShot RGB+, which is sold separately. That extra box is basically a glorified RGB Splitter, which is necessary if you want to be able to grab in full colour from a composite signal. It is possible to get by with just the digitiser, but you'll end up with a digitising system that's really no more capable than something like Rombo's Vidi Amiga.

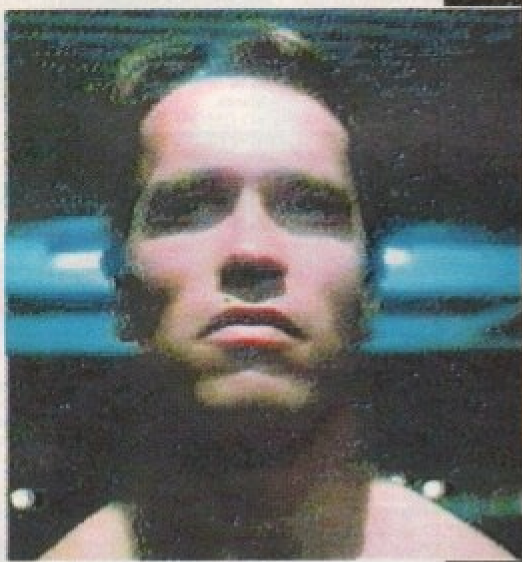
On the front of the digitiser are three proportional knobs which are used to control varying aspects of the incoming video signal. There are controls for brightness, contrast and an extra "Lace" control which enables you to lock the digitiser manually on to the video signal when grabbing interlaced images.

To make adjusting this setting easier, a small LED flashes when the lace setting is incorrect. All you then do is turn the control knob until the LED stays on permanently.

The RGB Splitter also has its own colour knob which lets you adjust the colour saturation of the signal. This too has its own sync LED, but the setting is handled automatically by the RGB Splitter. You won't usually encounter any sync problems using the RGB Splitter as long as the video signal being fed into the unit is of sufficient quality.

Digital image

After setting it all up, which takes no time at all, it's time to get down to some serious digitising. The software



This could be your terminal grab!

for this arrives on a single disk containing no demo pictures at all, which is quite surprising.

It's always nice to see exactly what a digitiser is capable of, especially when the majority of grabs you usually obtain from a new digitiser leave a lot to be desired. Thankfully though, it takes no time at all to grab good quality images yourself.

The SnapShot software is an impressive offering that almost fully automates the grabbing process. It's a very swish affair that makes use of the Amiga's powerful windowing facilities.

And, thanks to the fact that the main control panel is displayed in its own custom screen, the whole thing remains readable and instantly accessible regardless of which screen mode you're working in – users of HAM digitisers will know what I'm talking about!

SnapShot fully supports grabbing in just about every Amiga screen mode and resolution, including overscan. You also have full control over the number of colours that can be used.

HAM images are obviously the most impressive, but SnapShot does a pretty good job of grabbing in other modes too. DTP users will find the quality of SnapShot's high resolution grabs particularly useful for direct inclusion within packages like ProPage.

The grabbing hands

Depending on the type and size of image being grabbed, the digitising process is swift. If you grab in monochrome, SnapShot works in real-time, so there's no reason to pause the video signal, although the same can't be said for colour grabbing.

Because the unit doesn't include its own frame buffer – unlike the FrameGrabber 256 – the video signal must be paused. This isn't too much of a problem with newer videos, but owners of older digitisers may find this a problem because of the amount of image stability required.

If you can, it's worth getting your hands on a VCR that has a single frame advance facility. This is particularly handy because it allows you to find the most stable frame for digitising. Once again, most VCRs now offer this.

After you've found your frame, click the mouse and the digitising process is set in motion. Colour grabbing can take as long as 30 seconds, but the results are always more than worth the wait.

The overall quality of digitised images is certainly very impressive. I've

Providing the competition

If you're after a professional digitiser, you're absolutely spoilt for choice. Here's a roundup of SnapShot's closest rivals:

Videon – Distributed in this country by Power Computing (0234 273000), this Italian-made digitiser is perhaps the nearest thing to SnapShot! currently on the market. Its facilities are very similar, but unfortunately it doesn't quite have the pixel punching power to pose any real threat to SnapShot.

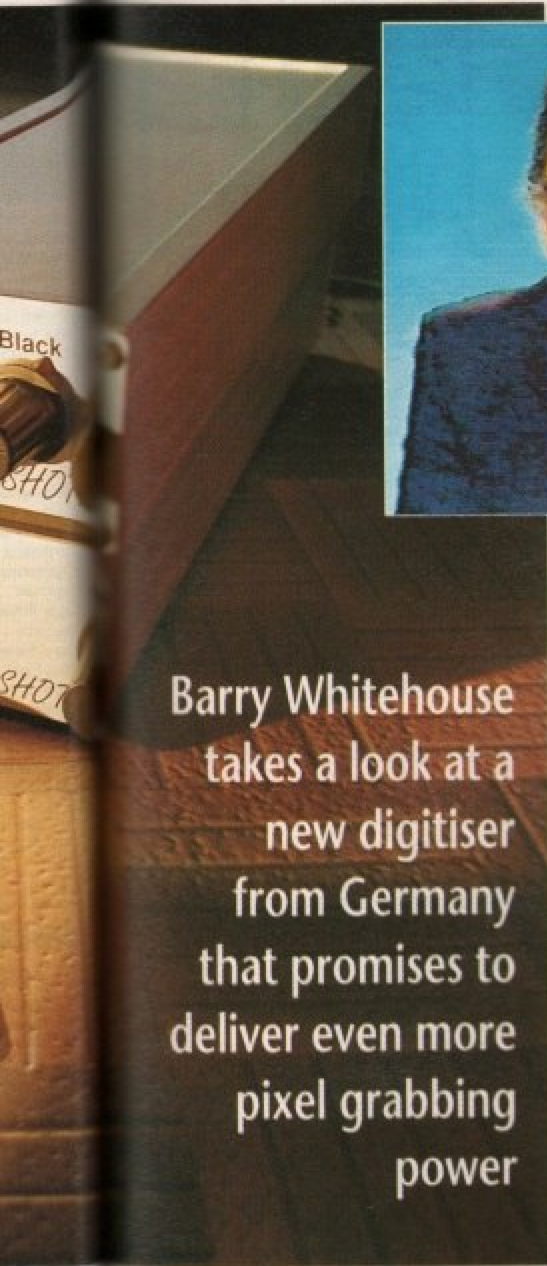
It too offers full colour digitising from a composite video signal using its own built-in video RAM and RGB splitter. Unfortunately, the quality of the images produced aren't a patch on those obtainable using SnapShot!

This is made even worse by some awful software and tacky digitising hardware – the knobs kept dropping off on the unit that I played with! Its only real saving grace is its price – coming in at a few pence under £250, it certainly wins hands down in the value ratings. Personally though, I'd rather spend the money on a decent DigiView setup!

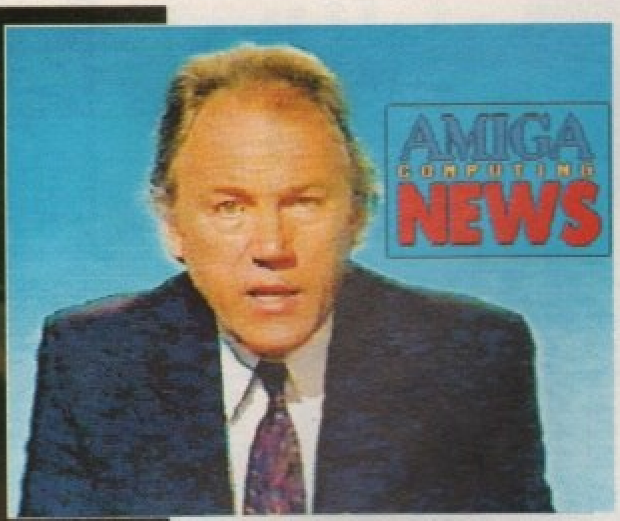
FrameGrabber 256 – If you're after a digitiser that can do it all, the Marcam's (0604 790466) FrameGrabber 256 is a good bet. It too is rather pricey (575), but differs from SnapShot in that it's a true colour real-time digitiser. Thanks to its built-in frame buffer it can grab full colour images in 4096 colours from a moving video source, so there's no need to hit Pause every time you want to get a grab.

The quality of digitised images is certainly very impressive, but it doesn't quite match up to SnapShot when it comes to grabbing colour images from video tape. If you want to grab "live" images using a video camera, it's a very good bet, otherwise, SnapShot is better.

As always though, it's horses for courses, so I'll leave you to come to your own conclusions.



Barry Whitehouse takes a look at a new digitiser from Germany that promises to deliver even more pixel grabbing power



Mixing Amiga output and TV news to cobble up a new job for Peter Sissons

been lucky enough to have played with just about every Amiga video digitiser available, but none of them have ever handled grabbing from video tape particularly well.

SnapShot Pro is the exception. As long as you grab from first generation video tapes – no copies! – you'll be able to grab images which are sharp and totally colour correct.

Colourful talk

Like most quality digitisers, SnapShot can save out images in a variety of different formats including its own custom 24-bit file format. Obviously it has full support for IFF, but even this has been extended to cover Commodore's new 24-bit IFF standard which was devised to keep all those new 24-bit graphics boards under control.



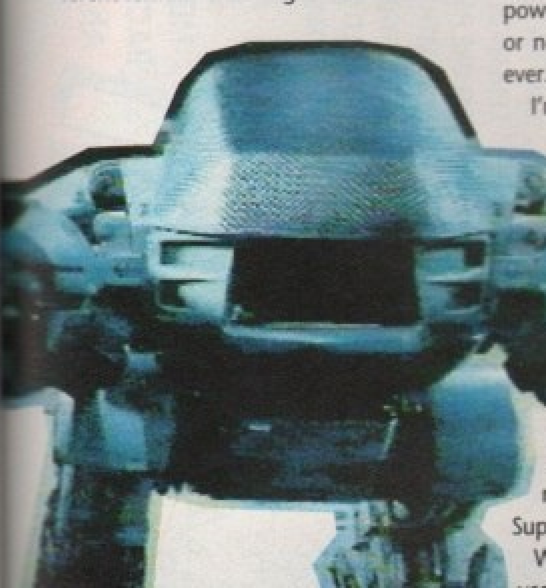
... a shining example of SnapShot Pro's quality

Because SnapShot handles its images internally in full 24-bit colour, it's possible to output digitised images for display on a 16 million colour graphics board like the Harlequin.

After a bit of tinkering around with file formats, I managed to get a couple of images working with a friend's HAM-E unit. Expecting great things, I must admit that I was a little disappointed.

The difference in quality between the original HAM images and their HAM-E counterparts wasn't really that great. In fact, the HAM versions were often a lot better. Even in HAM-E's powerful 24-bit mode, there was little or no improvement in quality whatsoever.

I'm not quite sure why this is, but I suspect that it may be something to do with the quality of the composite video signal. Like it or not, composite is pretty naff these days, especially when you compare it to much higher resolution systems like Super VHS and Hi-8.



With Super-VHS rapidly becoming a very popular standard among Amiga videophiles, I'm surprised that support for S-VHS hasn't been included. If it had, this would definitely have given SnapShot a boost.

Conclusion

So there we have it, SnapShot Pro in a nutshell. I must admit that I've had a lot of fun playing with SnapShot, grabbing frames from all my favourite videos and then playing around with them in DigiPaint. There's something uniquely satisfying about being able to paint a moustache and glasses on to George Bush without becoming the FBI's number one target. Well, all this and more is possible with a video digitiser like SnapShot.

It's the kind of digitiser that is ideally suited to the home user. Most of us don't own such luxuries as video cameras, so being able to grab quality, full colour grabs from video tape is a real boon. It pays to have a video recorder with a good stable pause function, but even with a mediocre video I was able to get acceptable results.

OK, so we all want a SnapShot, but there's one big problem – price. Coming in at just under 580 complete, SnapShot certainly isn't cheap. With true real-time colour digitisers like Marcam's FrameBuffer 256 being sold at pretty much the same price, SnapShot is going to be in for a real struggle if it is to be successful.

It certainly deserves to do well, but I can't help thinking that perhaps it has been priced rather unrealistically. If it offered real-time colour grabbing, HB would be on to a winner, but as it stands I can't really see how it can justify its current price.

If money is no object to you and you're not really interested in real-time operation, SnapShot is worth checking out. Its quality is absolutely breathtaking, making it one of the best video digitisers available. If it was slightly cheaper – say £400 complete – it would be snapped up.

SnapShot! Pro
£352.50 for digitiser unit,
£176.25 for RGB Splitter and £58.75 for Remote Unit.
HB Marketing, Unit 3, Poyle 14, Newlands Drive, Colnbrook, Slough
0753 686000

Digitising by remote

Pressing buttons on your video to advance frames, pause and so on is all very nice, but SnapShot can take the drudgery away almost completely. Using a sophisticated remote control unit which plugs into the back of the SnapShot hardware, SnapShot can control your video's functions directly.

When creating colour animations, this allows SnapShot to get around the problems of slow scan digitising by automatically controlling frame advance. Once again, a fairly capable video recorder is needed if you are to get the most from this facility.

Before you can get the remote control to work with your video, you must program it. This is achieved by pointing your video's remote control at SnapShot's remote control.

It then picks up the signal from your video remote and stores it in memory. Once it knows how your video recorder controller works, it emulates these signals. Clever really.

Animation

Among SnapShot's more interesting features are its powerful animation facilities. Although not particularly new for a video digitiser – both Rombo's Vidi-Amiga and Marcam's FrameGrabber 256 offer an animation option – SnapShot's animation facilities are second to none.

In monochrome mode, you can grab animations in real-time from the real world, but animating colour frames is somewhat more complicated. SnapShot allows you to create animations using a sort of stop frame-animation technique where each frame can be set up and grabbed manually. Once you have all the frames in memory, you can play them back with full control over the range and playback speed.

One feature that I particularly liked was SnapShot's ability to digitise frames at a given time interval. Simply by telling it how long it must wait between frames, you can create a sort of time-lapsed animation. For example, if you set up a video camera and pointed it at something like a pot plant, you could create a time-lapsed animation of the plant blooming and finally wilting.

Motion detect is also a very powerful facility. When selected, SnapShot continually grabs frames, analyzing each in turn. If the grabbed frame is identical to the previous one, it is discarded. However, if there is a difference, it is stored in memory and the motion detect facility is set in motion for the next frame. Obviously, SnapShot accounts for signal noise, so only relatively major differences are registered.

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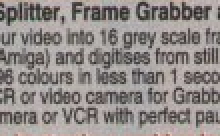
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THIS MONTH'S PRIZE

Last month every copy of *Amiga Computing* featured a unique GRAND GRAB serial number. The panel below contains 100 randomly selected winning numbers. If any of these match the GRAND GRAB number on your personal copy of *Amiga Computing* issue 40, you are already well on the way to winning a feature packed **Datascan professional scanner** from **Pandaal**.

How to win

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026859	027345	027776	028465	029114	029975
030023	030879	031132	031750	032764	033754
034572	034897	035755	036211	036829	038455
045768	046382	048532	054632	055875	057324
057876	059463	061465	062545	064821	066675
067839	069323	070015	071543	072876	074352
076854	077355	079953	081534	082005	085653
087854	088264	090574	091646	092874	092981
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099442	102345	102987	103756	103989	104637
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- If your GRAND GRAB number from *Amiga Computing* issue 40 (September 1991) matches any of those listed above, carefully complete your claim form.
- Photocopies of winning GRAND GRAB number panels will not be accepted
- The first five fully completed GRAND GRAB claim forms to be drawn from the compiled entries on Thursday 3rd October 1991 will each win a Pandaal scanner.
- All remaining winners will collect various runner-up prizes including software, *Amiga Computing* subscriptions and T-shirts.

The prize



Are you looking to get the best out of DTP with your Amiga? The Pandaal Datascan is ideal for scanning high quality images straight into your Amiga. Its maximum 400dpi resolution produces high definition mono images which can be imported into almost any Amiga DTP package.

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GRAND GRAB claim form

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Attach GRAND GRAB winning number panel here:
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Question:

What is the maximum resolution of a Pandaal scanner?

(a) 400dpi ☐ (b) 300dpi ☐ (c) 1000dpi ☐

Send this completed coupon to: GRAND GRAB CLAIMS, *Amiga Computing*, Europa House, Adlington Park, Macclesfield, SK10 4NP.
All entries must be received before Thursday October 3rd, 1991.

LAST MONTH'S DRAW

Last month we performed the first GRAND GRAB draw, revealing the lucky winners of three Solid State Leisure A5000/20 accelerator cards.

Congratulations to Stuart Coppin from Leicester, David Riches from London and Fiona Congleworth from Aberdeen. Watch out for an accelerated postman near your letterbox soon!



1. *Amiga Computing* GRAND GRAB is open to all readers with the exception of *Europress Group* employees, agents and advertisers.
2. Each claimant MUST complete the skill question on the GRAND GRAB claim form before their entry becomes valid.
3. The main GRAND GRAB prizes will be awarded to the first three claimants drawn from assembled entries on Thursday October 3rd, 1991.
4. All remaining claimants will receive unspecified runner-up prizes
5. *Amiga Computing* reserve the right to substitute prizes without notice.
6. The editor's decision is final and no personal correspondence can be entered into as a result of a GRAND GRAB claim.
7. All successful claimants will be listed in future issues of *Amiga Computing*.

GRAB

What's up for grabs?

NEXT MONTH'S GRAND GRAB EXTRAVAGANZA

Thanks to *Amiga Computing* you can get scanning with Golden Image or celebrate the launch of Amiga Gamer with the help of Kixx and Gremlin!

The number printed on the front of this very copy of *Amiga Computing* could be your passport to a superb free gift. Next month's GRAND GRAB will be bigger and brighter than ever with prizes ready and waiting for over 100 lucky readers.

2 GOLDEN IMAGE HAND SCANNERS



Don't panic if you haven't been lucky enough to win a Pandaal scanner in this month's giveaway.

You still have a chance to make a break into the world of image processing. The Golden Image hand scanner is another superb 400dpi model which comes complete with powerful Touch-Up application software.

Two copies of *Amiga Computing* are already earmarked with winning numbers. Who knows, one of them could be in your hands right now!

30 GREMLIN GREATS

Do you fancy winning a copy of Gremlin's HeroQuest, the absorbing fantasy adventure where elves, wizards, barbarians and dwarfs do battle with dark forces in search of hidden treasure?



Or how about taking on the evil forces of Havoc in six massive levels of Gremlin's smash hit beat-'em-up Switchblade 2?



Next month you could cash in the number on the front of this very copy of *Amiga Computing* for one of these sensational Amiga games.

Those awfully nice Gremlin people have put not just one, but 15 copies of each of these great games up for grabs in our next massive draw.

50 KIXX CLASSICS

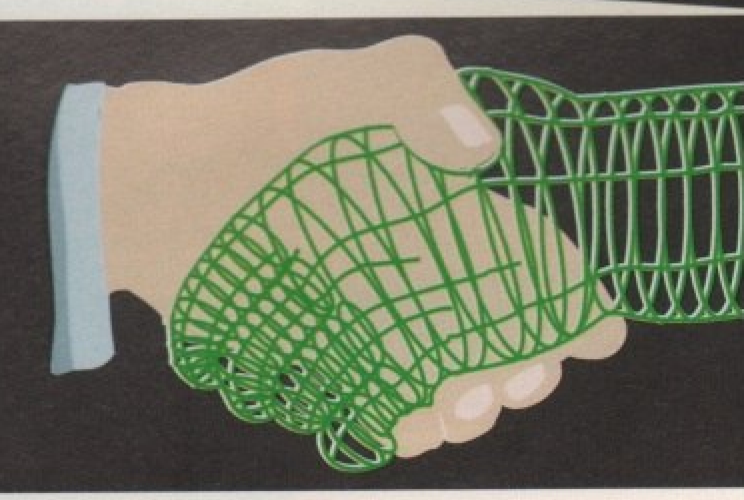
Not content with giving well over £700 worth of full price software away, the next Grand Grab draw will reveal the winners of 50 superb budget releases from Kixx software. By budget we don't mean cheap!

Kixx are responsible for re-releasing the very best in Amiga software at affordable prices.

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THE AMIGA COMPUTING LUCKY DIP!



The giveaways just keep going! 20 GRAND GRAB winners will receive exclusive *Amiga Computing* goodies including binders, disk boxes, mouse mats, WorkStation disks and subscriptions.

American football

There have been several American footy games but only a couple have made any impression. **4th and Inches** by Accolade and **TV Sports Football** by Mirrorsoft are the ones worth looking at. 4th and Inches is the older of the two and in comparison hasn't stood the test of time too well, although it's still a damn good American football game.

The characters on field are a little small and the movement is not what you would call smooth, but for budding head coaches out there it is still worth taking a look at especially as it is now on the Accolade in Action compilation with three other games, Fast Break (see Basketball section), Grand Prix Circuit and Blue Angles.

TV Sports Football, on the other hand, is still the classic American Football game, it quite simply can't be touched in this particular genre. Produced by Bob Jacob's Cinemaware (way before their financial problems), the graphics are, as you would expect from any Cinemaware game, quite exceptional and the sound is second to none.

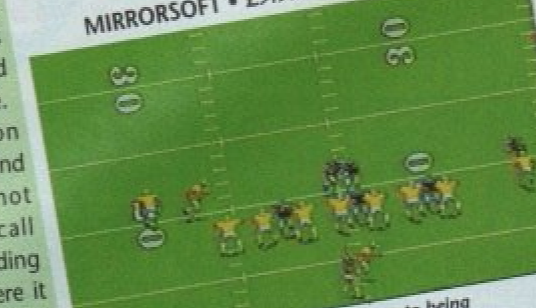
The introductory sequences and the between quarter scenes are just fantastic. It gives you the option to play just single exhibition games or participate in a full league with up to 28 player-controlled teams. The actual gameplay is quite difficult, the controls are challenging to get the hang of, but once you have, playing the game is a real pleasure.

This is the game that really does capture the feel of being there and is probably the next best thing. You can even play with a friend against the computer. A two-against-one situation may sound like it makes the computer a doddle to beat but you couldn't be further from the truth. TV Sports Football is certainly no push-over and it will take you ages before you provide an adequate challenge for the game. But it is worth it.

The unbelievable thing about TV Sports Football is that it is now available at an incredibly low £9.99 thanks to Mirrorsoft's Mirror Image budget label. It's an absolute must for sports games fans – go and get it straight away.

TV Sports Football

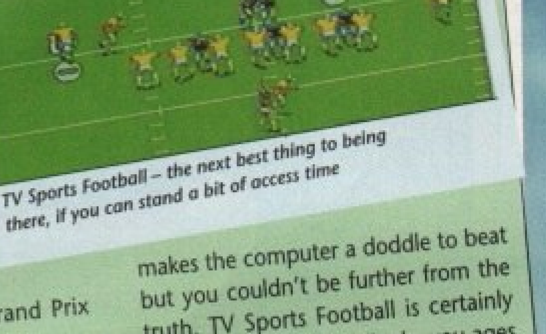
MIRRORSOFT • £9.99 • OVERALL 87%



TV Sports Football – the next best thing to being there, if you can stand a bit of access time

4th and Inches

ACCOLADE • £24.99 • OVERALL 78%



4th and Inches from Accolade is worth a look but can't beat the 'feel' of TV Sports Football

Cricket

Although Soundware International have a supposedly amazing 1 Meg cricket game they couldn't get a copy to us in time for this feature.

But it is rumoured to be excellent. The only other cricket game worth noting at the moment is **Cricket Captain** by D&H Games, one of the smaller software houses maybe, but that certainly doesn't seem to affect the quality of their games. After all the Multi Player Soccer Manager has been taking the charts by storm.

You get complete control over everything. You choose the players' names, choose the team, and then play. Even when you are playing you get the option to play the match yourself or get the game [...] play the match – a very useful [...] saving feature.

There is so much going on [...] strategy side of things that [...] become hard to keep track of [...] thing. Keep your eye on the [...] the contracts, the players' form [...] injuries, and that lot is just for st[...]

Definitely worth a look if y[...] find the Soundware Internation[...] anywhere, which could be m[...] likely.

Cricket Captain

D&H GAMES • £24.99 (inc dongle) • OVERALL [...]

Amiga

Ever since computer and video games became popular people have wanted to try out their favourite sports. The very first would have been Tennis, or as it was known then Pong, that stupid game with two bats either side of the screen and a square ball bouncing between them.

Well thank god games have come a long way since then. Now just about every sport you care to mention has been transferred onto computers, plus a few that you won't have seen on TV. LES ELLIS guides you through the hits and misses of the world of the Sports game.



Karate

Karate is always well represented on the Amiga but most of these type of games include missions like rescue someone's beautiful daughter or something corny like that. The best pure Karate game is **International Karate +** (or IK+ as it is better known).

Programmed by Archer Maclean, it is a non stop whack 'em and stack 'em game. Up to two players can play and the aim of the game is simple – gain as many points as possible and build up to a black belt. There are loads of different moves available and some rather strange effects can be accessed by pressing various buttons on the keyboard –try it and see.

IK+ is made even more value for money when you consider that it has just been brought out on the Hit Squad, Ocean's budget label. For a bit of nostalgia go and get it – it's a lot of fun.

IK+

HIT SQUAD • £7.99 • OVERALL 84%

a world of sport

Basketball

Again in this category a Cinemaware game comes up against an Accolade game. This time it's **TV Sports Basketball** from Cinemaware and **Fast Break from Accolade.**

TV Sports Basketball is the latest in the TV Sports range and will definitely not be the last to appear on the Mirrorsoft label. Again it has some of the best graphics you are likely to see on the Amiga with amazing detail and animation all round.

You get to plan all the aspects of the game, including all your strategies and substitutions, and then you get to carry them out on court. You get control over all the players in the team as you struggle to become the modern day Harlem Globetrotters (fat chance).

Again, multi player options are available making this one of the best sports games of any category let alone just basketball. A definite hit.

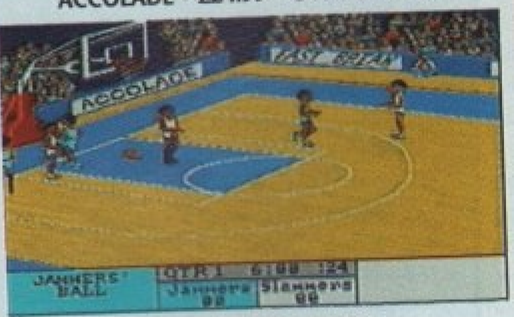
Now Fast Break is another good Basketball game, but it just can't knock the TV Sports stuff off its pedalstool of being the best around. Unfortunate really but that's life.

Fast Break has only three-on-three action for a start, whereas TV Sports Basketball has the full five-on-five.

The graphics are nowhere near as good – there are no close-ups of the shots like on TV Sports. The sound is like something from the dark ages. Not a bad game, but it just ain't like TV.

Fast Break

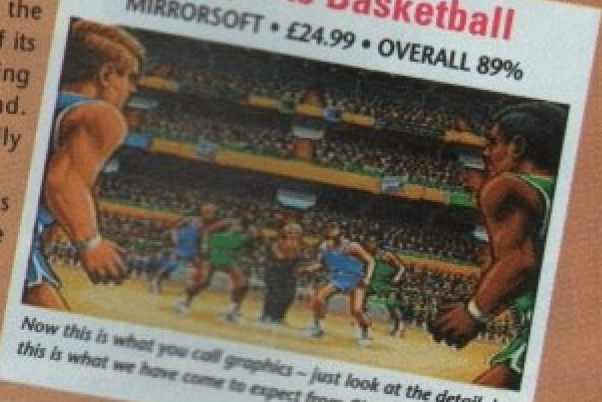
ACCOLADE • £24.99 • OVERALL 70%



On the face of it the actual playing sequences don't look all that different, but play the game and the differences will strike you immediately

TV Sports Basketball

MIRRORSOFT • £24.99 • OVERALL 89%



Now this is what you call graphics – just look at the detail, but this is what we have come to expect from Cinemaware



Golf

Golf has always been a sport that has made me curious. For a start, why do golfers have absolutely no fashion sense? Have you seen those trousers they wear? Not a tassle or a pair of tight jeans in sight.

Then, if these golfers are so good why do they take so long to smack a little white ball from one end of a field to another, and why do they need caddies to tell them which club to use and what to do with it? What's the point?

The point is, if you could earn millions by hitting a ball with a bit of metal, would you care? No, of course not. The two golf games worth looking at are **Tournament Golf** by Elite and **PGA Tour Golf** by Electronic Arts.

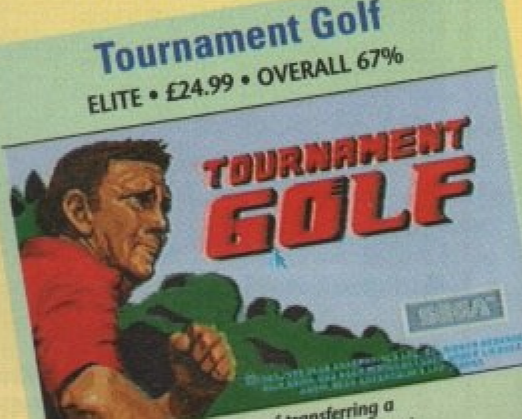
Tournament Golf features three different courses with one or two players participating. The control method is standard enough – power bar plus hook and slice. This makes it pretty easy to control. One problem with it, though, is that the screen update is pretty slow.

Although Tournament Golf is blessed with some nice graphics it was unfortunate to come up against possibly the classic golf game. That award goes to PGA Tour Golf by Electronic Arts. PGA is just a pleasure to play. It features three of the toughest courses in the world plus a 4th course designed to be as fiendish as possible.

These make up the four rounds of tournament play as you compete against 60 other pros all trying to make it to the top. The game is so addictive it is unbelievable. The only bugbear is that when two players are competing, when both of you are approaching the green you each get the green grid which takes a while. This only proves mildly annoying, though. So if you prefer your sports slower and gentler then go for PGA Tour Golf.

Tournament Golf

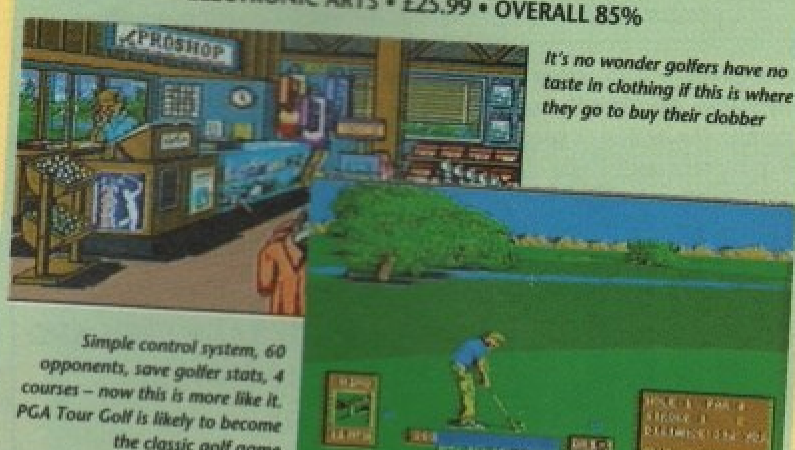
ELITE • £24.99 • OVERALL 67%



Making the unusual move of transferring a game from a console to a computer, Elite did their best but didn't quite make it work

PGA Tour Golf

ELECTRONIC ARTS • £25.99 • OVERALL 85%



It's no wonder golfers have no taste in clothing if this is where they go to buy their clobber

Simple control system, 60 opponents, save golfer stats, 4 courses – now this is more like it. PGA Tour Golf is likely to become the classic golf game

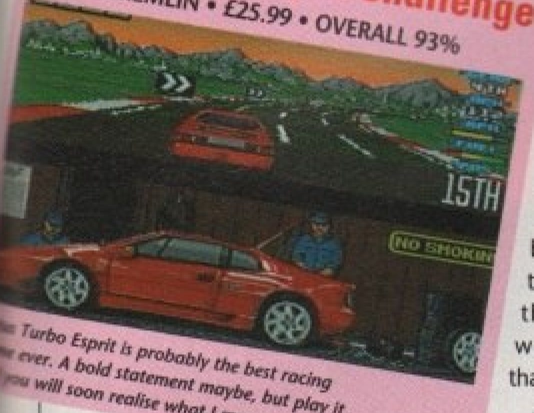
Racing

Probably the second most popular type of sports game after football, there have been some brilliant racing games around over the last few months. The undoubted King of the track is **Lotus Turbo Esprit Challenge** by Gremlin.

Team Suzuki
GREMLIN • £24.99 • OVERALL 80%

The speed at which the track moves by is breathtaking. The game proved so addictive when it first came out that it caused many sleepless nights as people tried to complete that one last circuit, finishing in a high enough position to qualify for the next.

Lotus Turbo Esprit Challenge
GREMLIN • £25.99 • OVERALL 93%



Lotus Turbo Esprit is probably the best racing game ever. A bold statement maybe, but play it and you will soon realise what I mean

The two player game adds some real tension to the atmosphere as you both hack around the circuit at breakneck speeds. Another race game from Gremlin is **Super Cars 2**, different from Lotus Turbo Esprit Challenge but very nearly as good. The track is viewed from above and the cars are equipped with weapons to make overtaking that little bit more hazardous.

Again, in two-player mode it gets very addictive with around 20 courses split over three skill levels.

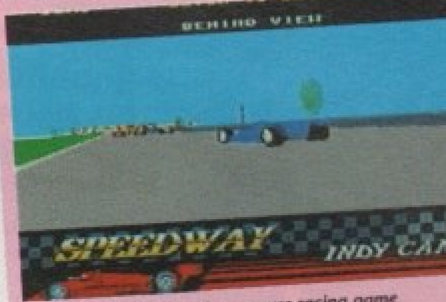
Both of these games received rave reviews from everyone when they were released and both are still excellent buys.

Incidentally, the original Supercars is now available on Gremlin's budget label at £7.99.

Super Monaco GP
US GOLD • £25.99 • OVERALL 84%

Also from Gremlin comes **Toyota Celica Rally** and Team Suzuki (a motorbike racing game). These come just behind the others, but not far.

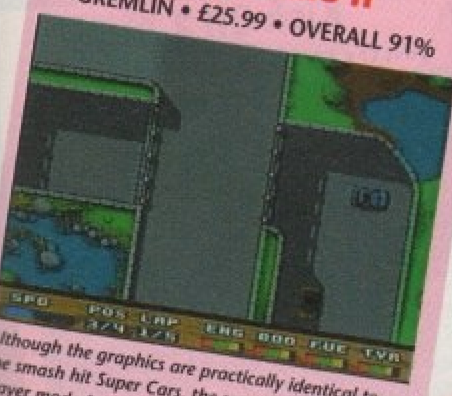
Indianapolis 500
ELECTRONIC ARTS• £25.99 • OVERALL 75%



More of a simulation than a pure racing game Indianpolis 500 is still a fine piece of computer programming and well worth looking at

US Gold's entry to the racing game genre is **Super Monaco GP** – yet another impressive arcade conversion. The speed is surprisingly fast, with good graphics and sound all round. Pity it's only a one player game, but then so was the coin op so it doesn't lose any marks for that. Although it has been around for several months it is still excellent value for money even though it does prove slightly easy to finish.

Super Cars II
GREMLIN • £25.99 • OVERALL 91%



Although the graphics are practically identical to the smash hit Super Cars, the sequel adds the two player mode for even more addiction factor

Indianapolis 500 from Electronic Arts is more of a racing sim than a pure racing game. The graphics are in 3D but are still very detailed and nice to look at. The game is difficult to play and probably won't appeal to the general racing fan. It is definitely one of the toughest games of this genre, if not THE toughest.

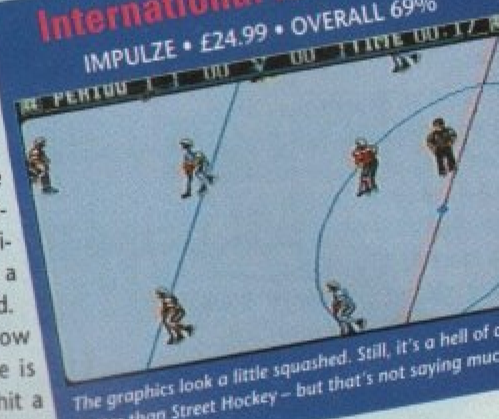
Toyota Celica Rally
GREMLIN • £24.99 • OVERALL 83%

Hockey

I've decided to put two games together under the hockey banner, **Street Hockey** by Gonzo games and **International Ice Hockey** by Impulze.

Street Hockey is a strange adaptation of the sport that seems to be the up and coming thing just lately. It even features in a drinks commercial for Tango. Unfortunately Street Hockey isn't able to live up to that kind of reputation. It is extremely difficult to play thanks to a ridiculous control method.

International Ice Hockey
IMPULZE • £24.99 • OVERALL 69%



The graphics look a little squashed. Still, it's a hell of a lot better than Street Hockey – but that's not saying much

The graphics are slow and the response time is awful. After you have hit a wall about four times while steering in the opposite direction you get more than a little annoyed. For a full price game it's a real let-down.

I wish I could say the opposite for International Ice Hockey, but I can't. It does have real advantages over Street Hockey – it's playable for a start, which helps. But the graphics are a little strange to say the least, with small sprites looking as though they could do with eating something fattening.

There are some very well done between game screens but these can't make the gameplay any better. One interesting feature is the "snapshot" where any plays you have managed to put together that you think are pretty good you can save to disk. But on the whole wait and see if any other hockey games are coming out before you go for either of these.

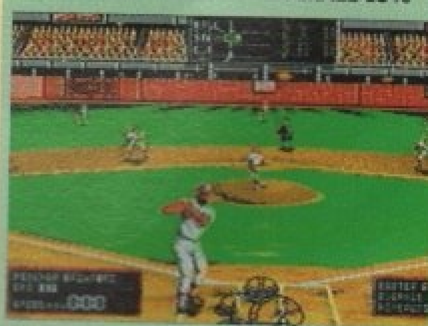
Street Hockey
GONZO GAMES • £24.99 • OVERALL 56%

Baseball

The latest and, according to Domark, the greatest Baseball game at the moment is **RBI 2 Baseball**. In case you didn't already know, RBI stands for runs batted in. It features all you would expect from a baseball game – easy pitching and difficult batting (as always) – plus some control over the fielding.

There are some nice touches throughout, especially on the score board when any decisions are made. There is some very good attention to detail, especially in the in field when the judges give their decisions at the plate. Domark have done well with this Tengen conversion, and if you like a cracking baseball game you could do a lot worse than this.

RBI 2 Baseball
DOMARK • £25.99 • OVERALL 85%



RBI is a great game,especially if you're into baseball in a big way

TENNIS

The only tennis game worth mentioning at the moment is **Pro Tennis Tour 2** from Ubisoft. This is destined to be an absolute smash hit (pun intended), especially with the likes of Agassi and Edberg whetting everybody's appetites with their exhibitions at Wimbledon and around the world.

Pro Tennis Tour 2 is a hell of a game – it has the lot. Excellent graphics, atmospheric sound and some animation that is so good you won't believe you are watching a computer. Look out for this on the shelves of your favourite games haunt, and if you see it, buy it.

Pro Tennis Tour 2
UBISOFT • £24.99 • OVERALL 95%

Volleyball

Now that Summer is supposed to be upon us you can probably go down to the beach and catch all the scantily clad men and women playing Beach Volleyball to loud rock music.

But if you can't stand getting sand between your toes or in your sandwiches then try it on your Amiga.

The only game I could think of in this category is **Beach Volley** by Ocean. But that's not such a bad thing because it's a cracking game and there isn't much that could come near it, except maybe a TV Sports version if it ever appears.

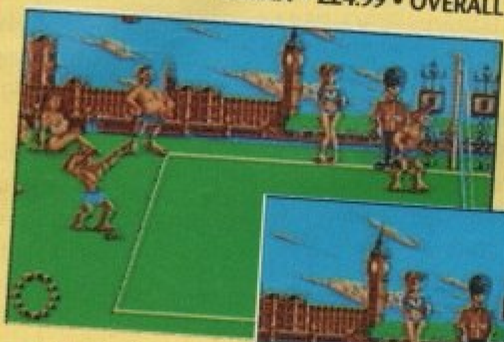
Beach Volley is certainly no youngster, having appeared back in 1989. It has stood the test of time quite well. Once you get used to the control method, which makes heavy us of all the joystick directions, it is a really good game to play.

There much satisfaction to be had in setting the ball and then jumping up and spiking it deep into the opposite court and out of reach of your opponents. You get to play all over the world against some the best ball players. Beat them to prove that you really are the best of the best.

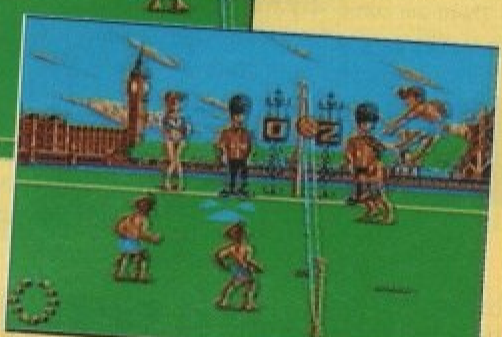
A gem of a game, even if it stands unopposed in the Volleyball genre.

Beach Volley

OCEAN • £24.99 • OVERALL 76%



Sun tans, expensive shades, ghetto blasters and gorgeous girls. Sounds fine to me – when do we go?



At least with this version you can't get sand all over the place. And you won't get rained on like you would if you were playing it for real in this country

Snooker/Billiards/Pool

Ever complained of there being too much Snooker on TV? Well now you can put even more on the old box. In the near future Virgin have **147 Snooker** lined up for release.

I've had a sneak preview of it and it looks pretty hot, I can tell you.

Billiards II Simulator from Infogrames is a collection of new billiards games. One is French Billiards for the more strategy-minded among you. There is also American Pool billiards for the sportsmen, plus the addition of a billiards/pool game played on an eight sided table.

The graphics are adequate – after all there isn't much you can do with a few balls and a piece of wood. The control is a little awkward and unless you are specifically looking for a billiards game I'd go for one of the others mentioned in this section.

3D Pool is an excellent pool game. The 3D works really well and the game is a lot of fun to play. It has recently been added to the Mirror Image label and at £9.99 is the best game of this ilk around – until Virgin release their snooker game,that is. The pick of the bunch.

3D Pool

MIRROR IMAGE • £9.99 • OVERALL 81%

Billiards II Simulator

INFOGRAMES • £25.99 • OVERALL 69%



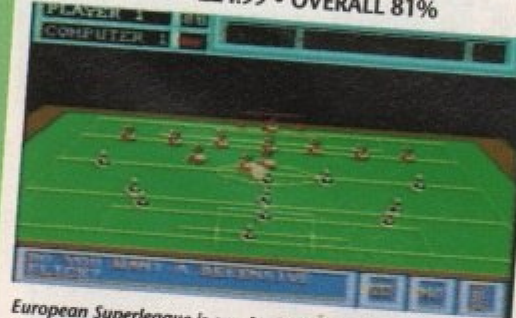
I'll bet you've never seen graphics quite like this on a billiards game before. Unfortunately they serve no other purpose than to look nice. The real action is on the table



American style Pool is just one of the games available on Infograme's new game. It's a pity it's as unplayable as the others as well.

European Superleague

CDS • £24.99 • OVERALL 81%



European Superleague is one for fans of footy management games only

Football

Well, I've saved the best until last. The football category is probably the one that most people will be interested in. And it certainly seems to attract the software houses.

Of course you couldn't mention football without mentioning the immortal **Kick Off 2** from Anco. This game has been around longer than most people would care to remember in one form or another and is considered by many to be the best of the bunch.

The two-player mode leads to some competition that gets pretty hot. It is very challenging due to a tricky control method but it is worth persevering with it just so that you can join the 'in' crowd of pretend Kick Off 2 champs.

In a slightly different vein is **Subbuteo** – yes, they have even simulated the finger flicking fun of table top soccer. Unfortunately this is a pretty stupid idea for a game and the gamesplaying public showed this by avoiding it in their droves. Bad control, naff graphics and oh so slow gameplay lead up to a certain miss.

There are couple of football management games that may be worth a look. Firstly, **Multi Player Soccer Manager** from D&H games is still a cracker, although the actual managerial section does look a little bit similar to the Cricket game (or should that be vice versa).

It is still in the computer game charts months after its release. The strategy gets pretty intense as there is always loads going on. If you really want to know what the real mangers go through in their careers then take a look at this.

Secondly, **European Superleague** takes a slightly different element. Everybody knows that the European Superleague doesn't actually exist (yet). Again there is lots going on all the time to keep you busy. There are some great graphics used throughout, especially in the match sequences.

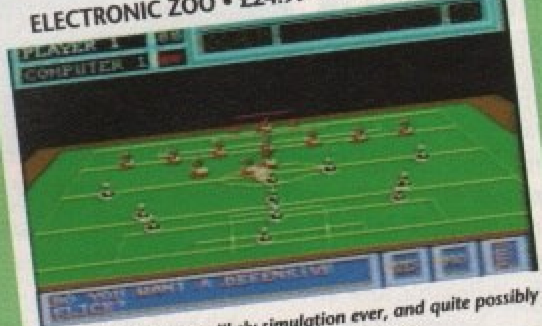
One problem it does suffer from, however, is the amount of time spent accessing the disk.

Multi Player Soccer Manager

D&H GAMES • £24.99 • OVERALL 90%

Subbuteo

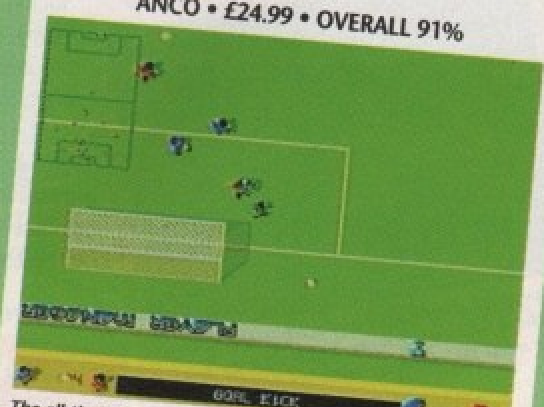
ELECTRONIC ZOO • £24.99 • OVERALL 52%



Probably the most unlikely simulation ever, and quite possibly one of the worst. Subbuteo from Electronic Zoo

Kick Off 2

ANCO • £24.99 • OVERALL 91%



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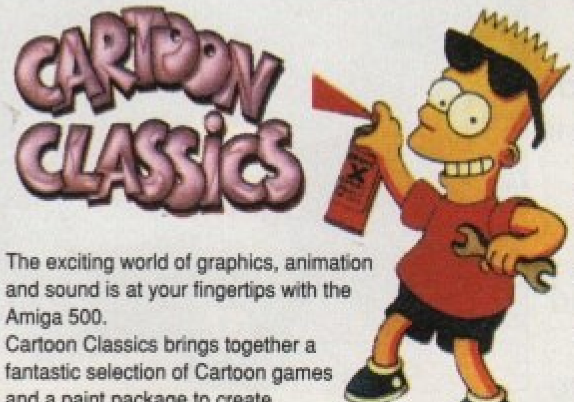
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Seagate rescue

I was reading your ACAS column in the June 1991 issue and can offer a source of information to Mr Smith of Manchester who was having trouble with his Seagate drive and C Ltd controller board.

C Ltd went out of business over a year ago, but a company called Micro-Dyn (2011 S Washington, Wichita, KS 67211, USA tel. 316-265-2661) has obtained all rights to previous C Ltd products and is actively supporting them.

I believe the ST-225N has 615 cylinders and four heads, and is a 20Mb MFM format drive with an access time of 68ms. Write precompression usually starts at cyl 300 on those units.

The card sounds like an early C Ltd unit, and what little I know of them is that they are non-auto-booting and usually fired up with a C Ltd boot disk called SCSI_DOS. The utilities for formatting the units are usually on the SCSI_DOS disks, but if you don't have the C Ltd manual, you'll need a technician who is adept at SCSI interfaces and drives. Hope this information helps some.

Michael Lesperance, McChord AFB, Wa, USA

That explains why our efforts to contact C Ltd were in vain! Thanks for the tip, Michael. If Mr Smith is reading, we hope it solves some of his problems.

Tower Amiga

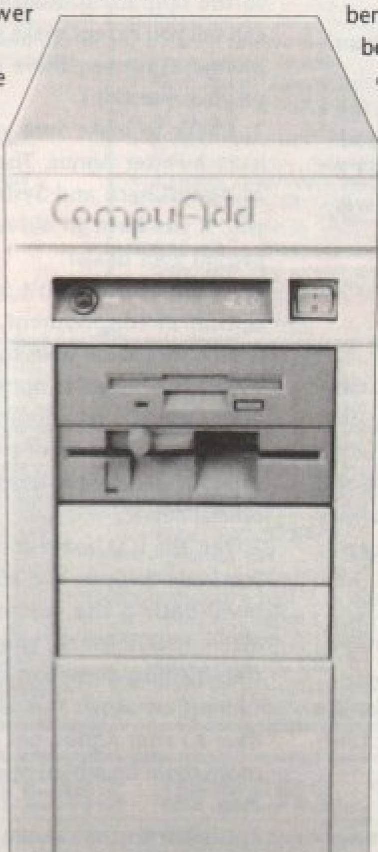
After reflecting that my A500 reminds me a little of an Acorn Electron (Treason! – Ed), and that it'd look a lot better in a mini tower sporting all three disk drives accessible from the front of the machine, I set about converting it into a tower Amiga.

Floppy drives can be removed quite easily from their mounts and screwed into PC-style mounting rails, and it is a simple job to remove the PSU from its case to fit it internally on the new chassis.

The motherboard, once removed from the original case, is screwed into the new case using plastic spacers, and connections are made to the outside world using nice 25-way ribbony things. There's plenty of room left inside the new beast for hard drives and things as well.

Oh no! What about the keyboard? Out of its A500 case it looks horrible. The motherboard connection can be made to the DIN socket on the front of the new case and, with a nice curly wire and DIN plug from Tandy, a lead can be constructed for the keyboard. So where can I find a case for the darn keyboard?

Now, I might play a lot of games and things, but an Amiga without its keyboard is about as useful as a working ST. My best buddy sits semi-naked on the bench and I can't bear to see her unhappy. I've been told the A2000 keyboard won't work and can't think of anything else. Any ideas?



A tower of strength?

T A Seaman, New Malden

Congratulations on winning the Metamorph-of-the-Month competition! Turning your A500 into a mini tower is a dream shared by many an Amiga owner as, regardless of the cost-effectiveness of such a solution, they love the image boost.

The only add-on keyboard I know of is the Checkmate Digital unit. For £59.95, you can experience the joys of a rattling, badly fitting, bouncy mounting whose only positive features are that it is the ONLY one available and that empty it serves well as a coffee tray.

If you've gone to the trouble of assembling the tower, however, the CDL unit is the only serious option. Call them on (071) 923 0658.

Short circuit

I read with interest the letter from Andy Hamilton in the August issue, since I fixed an identical sounding problem on my A500 last month.

One month after the warranty had expired (naturally), the internal drive started giving spurious read/write errors at regular intervals. Having checked for viruses, head alignment (by formatting a fresh disk, then trying to read it back), and using a head cleaner, all to no avail, I decided to have a look myself rather than spend a fortune having it repaired.

After much poking around inside looking for loose chips and dry joints – the most common causes of these kind of hardware faults – I finally noticed that where the RF shielding had been touching the cables connecting the drive to the motherboard, the insulation on the cables had been partially worn away.

Not enough was gone for the wires to short to each other, but enough damage had been done to let them short to the shielding. I was able to fix the problem by bending the metal plate back so that it was well clear of the wires, though even if the cables had been more badly damaged it would still have been much cheaper to replace them than to have the machine repaired.

Since the design of the A500 means the shielding will usually be rubbing against the drive cables, I suspect that this is a common fault on these machines. I would suggest readers whose machines are out of warranty carry out some preventative medicine by bending back the metal plate before the symptoms occur, since if drive leads start shorting out they could cause serious damage.

Dave Kirby, Swindon

Inexperienced A500 owners could also cause a great deal of damage if they started poking around in their machines with a screwdriver! The tip is appreciated, but remember if your machine is under warranty or you're at all doubtful about opening up the Amiga, DON'T DO IT!

Bitmap bother

I'm having problems with my hard drive. Every time I boot up it takes three to four minutes of messing about before it validates itself, and won't finish loading programs until it's stopped messing around.

If I try to save something before this time is out, I get an "Error - is not validated" message and the file isn't saved until validation is complete. If I turn off the computer before validation is finished, I get the same message immediately on booting up again.

I tried to get an answer from the Amiga dealer in

Radio mentals

Duncan Webster's letter on the subject of sending data from one modem to another using a walkie-talkie prompted several replies, some of which were more constructive than others. Here's a selection for anyone thinking of putting an Amiga on air.

I should cocoa!

I tried exactly the same thing as Mr Webster. With a hot chocolate tin (Woof! – Ed). No – don't turn the page or put down the mag yet. Simply by using it as an aerial booster, all I did was wrap some stiff copper wire on the outside and used the rest as a down lead to the walkie-talkie.

Making the down lead is very easy. When you have finished wrapping the copper wire – about 3 feet will do – use another foot of wire as a down lead by wrapping it with insulating tape. Be careful, however, to use some form of multimeter as you can only use so much unlicensed radiowave space. You could find yourself on the amateur band and get nicked for not having a licence.

Anyway, connect the down lead with a crocodile clip to the aerial and hope for the best. I'd say a 300 to 1200 baud modem would suit better over the air as faster modem speeds often scramble up the data. I had a very interesting talk with a friend this way! You could try Maplins for information on their Heathkit equipment for gathering clear signals.

Simon Canning, Marlow, Bucks

You'll have a more than interesting conversation with Mr Policeman if you're not careful! By all means, experiment with your Amigas and get the best from them, but try not to land in court while you're at it.

If in doubt, check the CB and amateur radio regulations before rigging up your Amiga in this fashion.

Illegal speagal

It is quite possible, technically, to link a modem to a radio transmitter in order to send data to a remote station (millions of kilobytes travel that way every day! – Ed) as it makes no difference whether the link is a phone line or a radio wave. Where Mr Webster is falling down is probably in the equipment he is using.

The fact that he describes his radio set as a "walkie-talkie" leads me to believe that he is using a CB hand-held transceiver and if this is the case he has several problems. The first of these is that there is probably no provision for an external input, thus preventing a direct connection between the modem and the handset.

The next problem is one of low power. Very few walkie-talkies are capable of the full legal limit of 4 watts. Add to this the problem of interference on CB frequencies and the chances of a clean exchange of data between the two stations are very doubtful indeed, even if only over a distance of a mile.

One final point against using this method of data transfer is, and I quote from the official CB Radio licence terms and conditions: "The licensee may use a CB station for sending and receiving only messages in plain speech".

In other words, the transmitting of computer data is illegal on these frequencies and may bring the DTI knocking on the door, in which case sending the data down a phone line could well work out cheaper after all.

Cyril Mokes, Nottingham

Hmm – your letter puts a bit of a dampener on the issue, but the legal situation can't be contested. We're not going to encourage readers to break CB regulations, but I'm not sure that Mr Webster was using a CB radio, so...

Iceland but they don't seem to know much about computers. They mostly just want to sell agricultural machinery. I'm enclosing printouts of my startup-sequence. Could it have anything to do with the WAIT command?

Jon Arnarson, Hafnarfjordur, Iceland

The problem lies not in your startup-sequence but in the root block of your hard drive. This is where the "Bitmap" resides, a file you can think of as a digital map of the location of every file on your disk.

If, for example, two or more files are trying to occupy the same space on a hard drive, the bitmap will freak out and fail to validate. This is the most common cause of unvalidated hard disks and, although very annoying, is quite easy to fix.

The best program I've used for validation problems is FixDisk 1.2. This was given away on our March coverdisk and is also available from most PD libraries.

To fix your validation problems using FixDisk, click on the "Directory" button, then on DH0:. The program will run through the contents of your hard drive and alert you to any problem files. It will then give you the option of deleting the offending file or the one it is clashing with.

DO NOT delete the file offered to you. Instead, delete the "other" file with which the first one is trying to compete for disk space. Don't ask me why, but FixDisk crashes if you decide to delete the first file offered to you.

Once you've got rid of the culprit, re-boot and check your drive again. Be warned that you may have to do this several times if your bitmap is severely scrambled.

Printer problems with QED

I would appreciate some help regarding the SID on the workstation disk. I'm using QED for editing script files to use with a menu program.

I've copied QED to a new disk and made it auto-booting as explained in the July issue of your magazine. My problem is how to get it to print? I keep getting a message "cannot open printer device".

My Workbench and Workstation have been correctly set up so why aren't I getting any results?

Mike Hemming Redditch Worcestershire

Well as any regulars will know printer problems are the most common cause of sleepless nights in the computing community. Fortunately in your particular case the answer appears to be a simple one.

Your problem is probably the lack of a *devs* directory on you new disk, within which you should create a *printer* directory into which should be placed a copy of your printer driver from either the Workstation or Workbench. Because your new disk autoboots, the Amiga regards it as the system disk and will look only there for any external devices or drivers that QED might require.

As a result it will ignore any other disks, even if they are set up perfectly for printing. You shouldn't have any problems creating and copying the various directories and files thanks to good old SID

Have fun...

Hard choices

I have a 1.3 A500 with A501 memory expansion and external floppy, and recently bought PageSetter II which is an excellent low cost DTP package. However, I seem to be continually running out of memory, and especially chip memory when using PageSetter. I realise there are a few options open to me, but would like help in choosing the most sensible.

1. Is it easy to fit a Fatter Agnus and if I fit it myself will I invalidate my warranty? If so, will it be invalidated if fitted by an official dealer?
2. Will fitting the ICD AdRAM board invalidate the warranty?
3. Is it better to buy a hard drive *and* memory expansion, or hard drive *with* memory expansion on-board, such as the Evesham Micros 40Mb NEC with 2Mb fitted? The latter is the cheaper and therefore more attractive option.
4. Would I need an upgraded power supply?

Brian Nisbet, Glasgow

You seem to have a fairly well-balanced approach to the upgrading question, so there's not much I can tell you except make your mind up and take the plunge. However, there are a few points to make on your questions.

1. Check to make sure your A500 doesn't already have a Fatter Agnus. There are PD programs such as AgnusCheck and SysInfo which will do this for you. If you have an old Agnus, you'd be advised to consult your dealer.

Commodore don't have an Agnus upgrade option at the moment, but a qualified official dealer should be able to fit one with ease. Check before you take this option to make sure it doesn't affect your Commodore extended warranty. There should be some way of ensuring the warranty is still valid if you have the modification carried out by an official dealer.

2. Yes, the ICD board connects to the Gary chip, so you have to open the A500 to fit it properly, thus invalidating the warranty. If you're going to attempt DTP work, you'll have to upgrade your chip memory somehow, and the ICD board's Gary connection allows the use of 1Mb chip ram if you have a Fatter Agnus, but losing your extended warranty could be a high price to pay for the extra half meg.

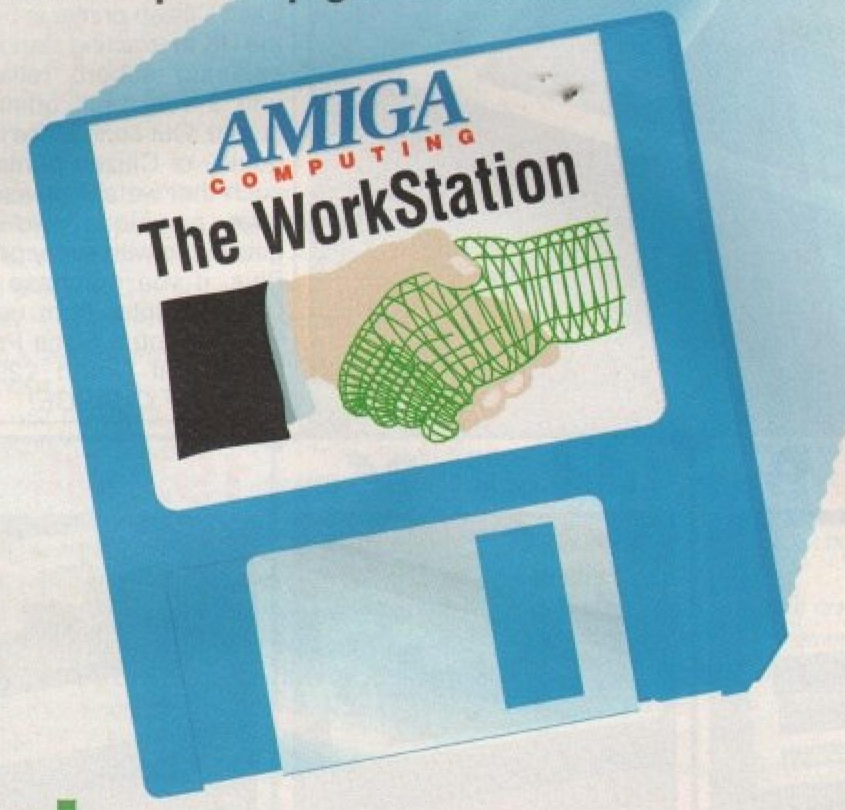
3. It's horses for courses as far as your hard drive choices are concerned. The advantage of drives which come with slots for extra memory is that they keep the number of bits and pieces sticking into or out of your machine to a minimum.

On the other hand, if the drive blows up on you it takes your extra ram with it. The Evesham Micros A590-based NEC drive is a solid and reliable, if not blisteringly fast, option.

4. You won't need an upgraded power supply if you go for a hard drive with extra memory on board, as these all come with their own power supplies. If, on the other hand, you buy one of the larger memory upgrade boards, you'd be advised to play safe and buy a beefy PSU as well.

Hit the gas and accelerate SID

Paul Austin puts his foot down and explains how to speed up good old SID



Our hero is much more than just a removal man and to prove it I'll be looking at what lurks among the thirty command buttons that are all too often overlooked.

Before we start please spare a thought for the long-suffering author, namely Timm Martin, who richly deserves any contributions you may feel the urge to send. If anyone deserves a contribution he does. You'll find his address on the last page of the WorkStation manual.

PRINT, EDIT and XEDIT

The Print option is rather self explanatory and providing you've installed the correct printer driver there shouldn't be any problems.

Installing a driver is a simple process – just select the driver of your choice and use SID to delve into the devs and copy the driver into the printer directory.

Next on the list we have Edit which as you're probably aware enlists the help of QED by first loading it and then automatically listing the script file ready for editing. Ideal for the ever-changing startup-sequence.

The final part of the initial trilogy is Xedit. This, like Edit, enlists the help of another hidden utility, namely NewZap. With the aid of this particular utility you'll be able to edit all manner of file sectors and codes all from the comfort of your own home.

NewZap is mainly aimed at the more expert Amiga fan so be careful if you're just dabbling – it could end in tears. The utility's primary use is to examine Ascii and binary within a file whilst searching for those elusive key sequences, digits and characters that are guaranteed to make your hacking life a little easier.

VIEW, READ and XREAD

View, as you might be aware, allows you to examine any standard Amiga image without the hassle of loading an entire paint package to do it. If you have a favourite viewer among the hundreds lurking within the PD it's a simple matter to replace the new for the old and, of course, adjust the relevant line in SID's config file.

The Read option will allow you to examine any Ascii file, which in most cases will mean documents and *readme* files which you'll find liberally spattered around on almost every disk. If you're reading a big file or one which you want to print, a better option might be be to use PPmore which you'll find lurking on the pull downs in the main Workstation screen.

Xread, like Xedit, is of more use to the expert than the beginner and gives you the option to read the Hex from any file in a similar way to Xedit, but with Xread you're limited to observation only.

HEAR, MAKEDIR and COMMENT

The Hear option is another automatically triggered utility which will autoload any IFF sound sample and play it at the correct pitch no matter what the sample rate.

If you're not sure as to the identity of a file remember that all can be revealed thanks to the Desk option which can be accessed with a click of the right mouse button at the bottom of SID's custom screen.

Makedir is next and one of the essentials as far as SID's concerned. Things literally couldn't be simpler, just select the disk of your choice and hit the button, add the new directory name and you'll have an instant empty directory ready and waiting.

The Comment option is another essential if your memory is anything like mine. After all, it's very easy to forget crucial information on a particular file and this is where Comment comes into its own by allowing you to add those few words that can reveal all about a particular file.

Again, to read comments simply click on the Note option after following the same procedure as Desk.

RUN, EXECUTE and OTHER

Run, as you might expect, does exactly that and can be very handy. If, for example, you wish to use a program from a disk which you didn't boot from, simply load the directory, select the file and hit the button.

Execute is very similar to run but of course operates on executable files. If you have a problem deciding whether a file is either runnable or executable use the Desk once again to give you an idea of what you're dealing with.

Other is the last of this particular trio and by far the most interesting. It allows you to define a command of your own to this particular button.

To make use of it first copy the utility of your choice to let's say the C: directory on the Workstation. Then edit SID's config file giving the Other command the correct path and file name.

> If you're a newcomer to this column you might be a little puzzled as to what this mystical WorkStation disk is all about. If that's the case it's worth checking out Page 138 for details about what you're missing and how you can get in on the act.

COPY, MOVE and DUP

I doubt there's any need to explain Copy as it's sure to be the most well worn button on the screen but Move is often forgotten in the rush.

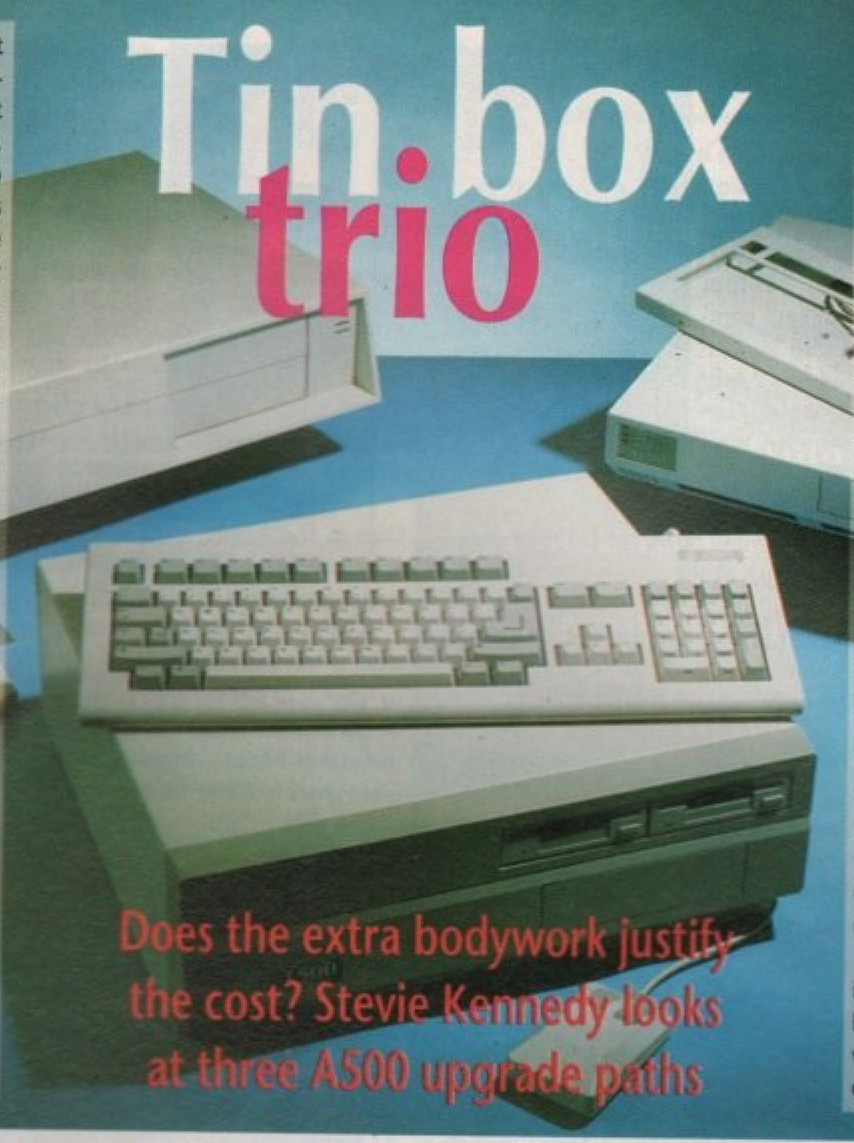
Move should be almost as heavily used as copy as it is perhaps the most efficient of all the duplication routines.

Dup allows you to automatically rename and duplicate a file onto the same disk. Although this isn't a regular occurrence it can still save a hell of a lot of renaming, copying and deleting when compared to the manual method.

Next month I'll explain the rest of the commands and have a closer look at customising SID's config file. Until next month, bye for now...

Tin box trio

Does the extra bodywork justify the cost? Stevie Kennedy looks at three A500 upgrade paths



Since Spectrum owners first went mad over D'Ktronics add-on keyboards to supplement their "dead flesh" rubber keyboards, home computer users have sought to upgrade their machines with bolt-ons and screw-ons. Everyone, from the humblest ZX81 owner with a wobbly ram expansion to the PC owner thirsting for the kudos only a tower casing can bring, has dreamed of transforming their frog into Prince Charming with the kiss of the magic screwdriver.

Amiga 500 owners were a little slow to catch the body-building bug, but their desire for everything from extra memory to a separate keyboard complete with curly cable can now be translated into reality thanks to three distinct upgrade paths. All you need to do is leave about 300 sovs under your pillow for the tin box fairy...

But why? A sensible, level-headed A500 owner confronted by the need to upgrade would quickly conclude that a hard drive, 8 meg of ram, a processor accelerator, and a flicker fixer can all be fitted to his or her machine with little or no external protruberances, so cunning have the peripherals manufacturers become.

Because the sensible, level-headed A500 owner is an entirely mythical beast, and since cramming more and more silicon inside an already overheated, underpowered case is a road leading eventually to Guruland, more and more Amigans are reaching the conclusion that there's more to upgrading than adding a few spoilers and flashy hubcaps. The A500 is not, after all, a Tardis.

Bearing in mind the needs of the upgrader, the two most pressing criteria on which to judge any offering are the number of *new* features it adds to the A500, and the number of *actual* expansion opportunities it offers.

The contenders

There are three realistic upgrade options for those whose ambitions cannot be contained within the A500's flimsy plastic case. The first to appear was A1500 Limited's unit, which I'll refer to as the A1500 shell to avoid confusion, then Commodore launched a very competitively priced A1500 bundle, and now there's the Bodega Bay unit from the States.

They all seek to satisfy the upgrader in different ways, so we'll attempt to highlight their respective strengths and weaknesses in the hope of making your choice a little clearer.

The A1500 Shell

Manufacturer: A1500 Ltd 081-907 3636
Supplier: A1500 Ltd • Price: £235

At first glance, the A1500 shell is the cheapest of the three units. It is also, however, the most basic in terms of features and expansion opportunities.

If purchased on its own, the A1500 shell expansion is just that – a shell. For your money you get an A1000-style system box and a separate keyboard of sturdy metal construction, some ribbon connectors, and a curly cable for the keyboard. There is also a fairly useful manual to guide you through fitting your A500 in its new home, but it is at this point that the A1500 shell starts to show its roots in the enthusiast market.

To get an A500 into the A1500 shell you have to open the machine, thus invalidating your warranty, take the motherboard and keyboard out separately, screw them into the system box and keyboard housing, then re-mount your internal drive on a saddle mounting which is hell itself to adjust. After a lot of messing about with ribbon connectors and a great deal of fiddling with the drive, you'll be the proud new owner of a machine which is cosmetically rather appealing, but which in electronic terms is identical to the A500 you started with.

Major surgery

To be fair to the A1500 shell, it is an enthusiast's option, and its design lends itself more to an open ended upgrade approach. As such it is a unit for those with a definite aim, such as slotting it in a 19in music rack with the aid of a mounting kit.

The truth is a little hard to swallow, however, as the unit still requires the addition of a DUC daughter board, with one half length slot, before further hardware can be bolted on, or the overrider box with its two full-length slots which at time of writing is still not available.



Pulling muscles with a shell?

As a straightforward rebox, A1500 shell is a solid and sturdy unit on which even the heaviest monitor can be plonked without risk. The system box is reasonably sleek, if a little rough around the edges, and the finished effect is of a business-like desktop computer. The keyboard is possibly the A1500 shell's weakest feature. As a simple metal box into which the original A500 keyboard construction is fitted without further ceremony, it falls far short of the sort of professional quality keyboards we are accustomed to using on home computers these days. It is certainly a pale shadow of the separate keyboard on a Commodore A2000 or A1500.

If you're a big fan of soldering irons, and need an Amiga casing which will allow you to take a very individual upgrade path, the A1500 shell is a good enthusiast's option.

If, on the other hand, you are an A500 owner requiring an upgrade box which will enable you instantly to access peripherals you would not have been able to use with the original machine, or if you would rather cross a busy road with your eyes closed than go near a screwdriver or soldering iron, this product is not for you.

Features

Ease-of-use

Value-for-money

Overall

Bodega Bay

Manufacturer: California Access (0101) 408 378 0340
Supplier: ZCL Holdings Ltd. Phone Dave Cheetham on 0543 414817
Price: £299 or £349 with Malibu hard drive controller card

Whatever the Bodega Bay expansion unit is, it is *not* beautiful. It is, in fact, a hulking great brute of a thing which sits on top of your A500 like a troll on a rock and frowns over the keyboard at you. Not so much an add-on as a squat-on.

In most other respects, the CA-500 is an unusually elegant common-sense solution to the problem of upgrading the Amiga. Quite literally, the California Access people have worked out what A2000 features were left out of the A500, put most of them in a big box, and bolted it on to the side of the 500.

Edge it in

Users who view their warranty as sacrosanct will be pleased to note that the CA-500 doesn't invalidate it. There's no need to open the Amiga to fit the unit because it simply slots into the edge connector on the left-hand side of the machine.

This doesn't mean you'll never have to wield a screwdriver, but it does mean you'll never have to take it to the Amiga. As the CA-500 is complete with all expansion slots and forms a separate bolt-on unit, you'll only ever have to ➤

expose the CA-500 to plain view. The basic unit, once added to the A500, comes very close to transforming your Amy into an A2000. It contains four full-size Zorro II 100 pin slots, three of which are IBM-compatible and therefore capable of accepting a bridge-board, and all of which have removable slots to the rear of the unit allowing for daisy-chained hard drives.

Handy features

In addition, the CA-500 has an integral 200 watt PSU to power all that extra hardware and its own cooling fan to stave off the onset of meltdown once you've packed an 8Mb ram card, a 210Mb hard drive, and an accelerator card into it. These are not just handy little features.

If you're serious about expanding your Amiga, you will certainly need a meatier power supply because the original A500 unit becomes uncomfortable with anything more than an extra half meg and a second floppy. And if you put peripherals in a confined space without a cooling fan you'll soon be paying regular visits to the Guru.



Load your 1500 into the bay

Another neat design point is the inclusion of an AC output socket, complete with 110V-240V switch, into which your monitor can be plugged. You'll have to fit a three-pin kettle-style connector to the monitor instead of a standard British plug, but the ability to switch your system off and on with a single flick is a bonus which makes it worthwhile.

Drive bays

The basic CA-500 has two front-loading drive bays into which the user can fit 5.25in floppies or, with an optional kit, standard 3.5in drives. There is also a separate mounting area for 3.5in hard drives, so you needn't use up a drive bay for your hard drive. The hard drive bay is a blessing as far as CA-500 is concerned.

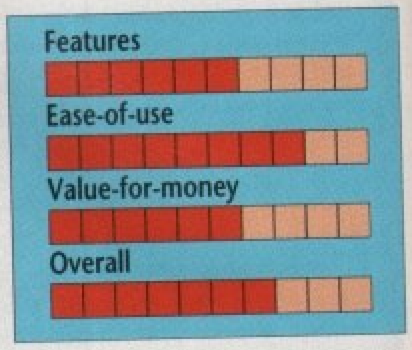
The four expansion slots are spaced no farther apart than in the A2000, and as they are arranged horizontally, slotting cards in and out of them is a good deal trickier.

A full height hard drive takes up most of the space available, so the ability to mount the hard drive separately of the controller card without robbing the user of a floppy drive bay is a boon when space is at a premium.

The one notable omission is the video port, essential if you want to fit a flicker fixer or any number of other video peripherals. Although it's true that the A1500 shell is also lacking in this area, you pay the extra cash for a CA-500 because it promises much greater instant expandibility, and to leave out the video port at a time when it is becoming more and more important on the Amiga is a major oversight.

The CA-500 is, overall, a well built and well balanced upgrade system. It may be larger than your average double bed, and almost offensively styled, but it is still the best option for expansion opportunities.

I personally wouldn't pay the £300 asking price, but there are no doubt many aspiring A500 owners who will think the four slots, the fan, and the PSU worth the outlay.



Commodore A1500

Manufacturer: Commodore Business Machines (UK) • Supplier: (Among others) Silica Systems (081) 309 1111 • Price: £699 or £999 with 1084S monitor

The Commodore A1500 is a cheat – it's actually an A2000 with an extra floppy drive and a different sticker on the system box. As a marketing ploy, bundling the machine with a monitor and a selection of software and cutting its price to below that of the 2000 means that A500 owners have an "official" upgrade path which is even more accessible than the trade-in deal Commodore were offering last year.

To take this path, you'd have to sell your A500 and make up the difference, but as a 1Mb A500 with software can usually be sold for £300 second-hand, the cost of an A1500 in cash terms drops to a level close to what you'd pay for one of the two units we've already discussed. As some retailers are offering the A1500 without monitor for £700, you'd be paying £100 more – assuming your A500 went for £300 – for this option than for the Bodega Bay CA-500, and £170 more than for the A1500 shell.

What's in the box?

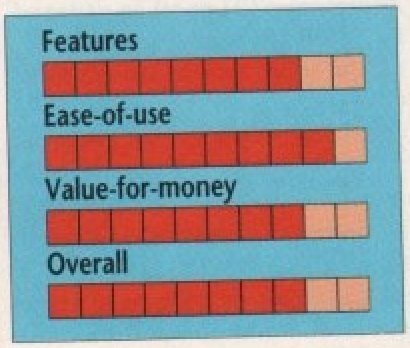
The excellent software bundle is aimed at the home family user, and includes The Works! Platinum Edition, which is a wordprocessor-spreadsheet-database package, and DPaint III to emphasise the productivity side of the Amiga. For games players, there is Sim City (with terrain editor), Populous (with Promised Lands), Their Finest Hour, and Battle Chess, so it's a games pack designed to appeal to older users – mum and dad – as well as the kids.

It's a poorly disguised A2000, the mainstay of the serious Amiga market for years, and offers by far the best expansion opportunities of all the upgrades on test. There are two full and three half-size slots, a coprocessor slot, a video slot, and two IBM-compatible slots. There's room for one 5.25in and two 3.5in floppies, though the 3.5in bays are both full on the official A1500, and the machine has a built-in 170 watt PSU and efficient cooling fan.


The genuine 1500 from Commodore

The A1500 won't be winning any beauty contests. Its case is a throwback to when PCs were PCs and to make it in a man's world you had to make your statement with sheer bulk. The most vociferous visual statement you'll hear from an A1500 is "I'm a great big fat ugly box!"

The keyboard is probably the A1500's most ergonomic feature. Unlike the A1500 shell, which has a dodgy re-housing for the A500 keyboard, or the CA-500, which retains the original keyboard completely, the Commodore A1500 has a sleek, separate keyboard. The action of the keys is better than on the A500, if a little chunky for some people's tastes, and the cable is long enough to enable you to use it on your lap.



Peripherals

Unfortunately, you'll be unable to use many A500 peripherals with the A1500. Instead of the male edge connector on the A500 it has female slots on the inside. All peripherals which would normally fit in external ports, such as disk drives and printers, should work with the A1500, but some peripherals have a problem due to the changed layout of the ports.

Rombo's Vidi-Amiga for the A500 is one which won't fit without the aid of an extended ribbon cable because the parallel port on the A1500 is next to the video port and the Vidi-Amiga box clashes with your monitor cable. Problems such as this are rare, but users should always check for potential incompatibility before shelling out for an upgrade.

On the brighter side, the A1500 will accept any and all A2000 peripherals and cards. As the standard for serious Amiga use until the A3000 takes over – if it ever does! – there are a huge number of peripherals available on the A1500/2000 which A500 users can only dream of using. For example, I doubt very much if, when the Video Toaster finally makes its PAL debut, there will be an A500 version.

Conclusion

The three options are clear enough. If you are a member of the soldering iron brigade and prefer a completely open-ended Amiga re-box, you should go for the A1500 shell. The majority of ordinary Amiga users, though, would be advised to stay well clear of it and settle either for a CA-500 or go the whole hog and flog the A500 in favour of an A1500.

The final decision will come down to cost and the individual needs of the upgrader, but if asked to plump for one option, I'd go for selling my A500 and buying the A1500. It costs a bit more, but the machine is immeasurably better than any number of re-boxed A500s and is solid enough to last for years – even if it is still a big tin box!



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ICONMANIA ..... icons & tool

● MUSIC ●

BABY SITTIN BOOGIE ..... funny sampled song
BARTMAN REMIX ..... great sounds
NEWTRONS MUSIC BOX ..... very well done
KEFERENS JUKEBOX ..... select and listen
PHENOMENA MUSIC DREAM ..... very good music
STAR DREK ..... 2 disk comedy
JOURNEY INTO SOUND ..... and so it is
BARD IN A BOX ..... first disk from academy
POWERMUSIC ..... power lords music disk
FOOLS GOLD ..... good music from sanity
BANGING RAVES ..... music from intuition
STARLINE ..... select and listen tracks
TALK TO THE TREES ..... great sampled song

● ANIMATIONS ●

ROTAMIGA (1.5meg) ..... neat ray traced anim
MORE CLASSY ANIMS ..... good quality
POGO (1.5meg) ..... good anim with sound
RANDI BRAZEN (1meg) ..... a bit x rated
UGLY MUG (1meg) ..... very good digi anim
THE MAGICIAN (1meg) ..... ray traced anim
STEVES ANIMS (1 to 5) ..... very tidy work
FILLET THE FISH ..... very amusing
AT THE MOVIES (1.5meg) ..... brilliant
PUGGS IN SPACE ..... cute little alien

● GAMES ●

TRUCKING ON (1meg) ..... great 2 disk game
SHAPES ..... addictive puzzle game
MEGABALL ..... a great game of breakout
LAZER-ZONE ..... arcade blast em!
ST-BASH ..... good old invaders
DESTINATION MOON ..... tricky space game
CHINA CHALLENGE ..... addictive puzzles
THE MAZE ..... don't get too lost
HOLLYWOOD TRIVIA ..... an interesting quiz
INSIDERS CLUB ..... wheeling and dealing
WHEEL OF FORTUNE ..... good quiz game
DRIP ..... arcade fun!
TOMTESPEL ..... two player action
EXCALIBUR ..... shoot everything
SEA LANCE ..... strategy at sea
POM POM ..... a very good blast em game
YELP ..... neat game for the kids

● SLIDE-SHOWS ●

GHOST HUNTING ..... boo!
NAGELESQUE ..... brilliant artwork
MADONNA SLIDES ..... 3 disks of thingy
DEMONS III ..... great music & pics
LAUREL & HARDY (1meg) ..... cute 2 disker
DIGGY PICS ..... 2 disks/brill pics
NEMESIS PROLOGUE ..... good art work
NEMESIS CHAPTER 1 (1meg) ..... 2 disks
UTOPHIA CARTOON SLIDES ..... fun pics
HYPERDISK 1 ..... good pics and story

● DEMOS ●

TOTAL DESTRUCTION ..... crionics ok!
GLOBAL TRASH ..... silents masterpiece
BASS MEGA ..... very good from France
ENIGMA ..... good phenomena demo
REBELS COMA (1meg) ..... brill classic
PULLING THE TRIGGER (1meg) ..... love this
BLUE HOUSE (1meg) ..... good demo and game
SCOOPEX CHROMIUM ..... very well made
REBELS MEGA II ..... neat gfx
SYSTEM VIOLATION ..... great vector bobs
DO THE BARTMAN ..... sounds good
BUDDBRAIN II ..... poor madonna
FRACTAL FLIGHT II (1 meg) ..... plays well
ACME MEGA (1 meg) ..... very fancy
WIZZCAT TRASHCAN ..... cooool!
TROPICAL SUNSET ..... well done silents
NEVERWHERE ..... neat demo from crionics
RED SECTORS MEGA ..... brill classic
CRIONICS MEGA ..... very good
VISION MEGA (1mega) ..... nice gfx
UP FRONT COOL FRIDGE (1meg) ..... well done
VOI DEI MEGA (1meg) ..... good multi part
DEXIONS MEGA ..... quite tidy
INTERSPACE ..... good phenomena demo

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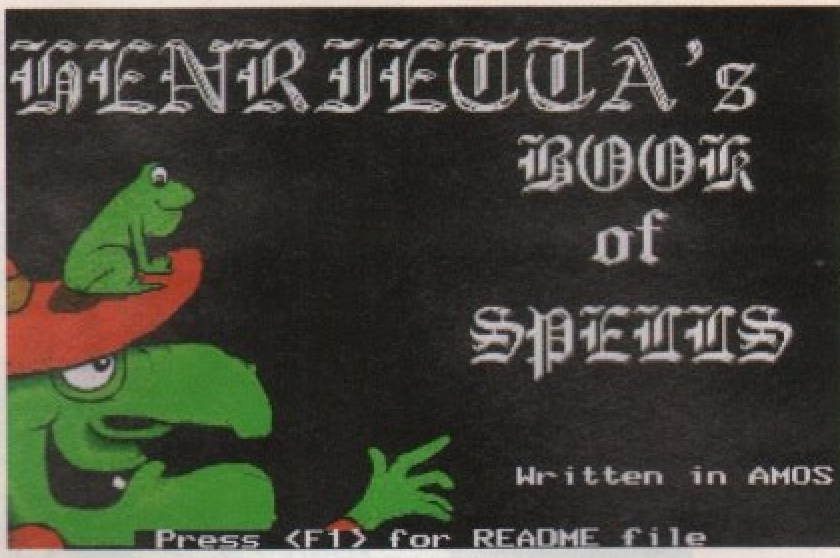
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Casting clever spells

Educational games for children reviewed by a spellbound Sarah Williams, aged 13



Henrietta's Book of Spells, from Scetlander's range of educational packs, covers the 7 to 14 age group. I found it to be a really enjoyable way for young brains to be tested.

The story on which the program is based is just as intriguing as playing the games. Henrietta and Henry have been happily married for a whole two weeks. However Henry's inquisitive nature led him to Spellalot, where Morgana the Morbid lives.

Henry was unfortunately turned into a fat frog! You have to help Henrietta restore him to his former good-looking self by completing the five brain-teasing games.

At the end of each game you are given a letter. Once you have completed all five games you have to make a word using the letters you have collected. You must complete the games as quickly as you can – there is a high score table on which you can have your name displayed if you are one of the fastest.

After typing in your name you are asked what size of words you want to try. This means how many letters you would like your words to consist of. You can choose between five and nine letters.

Your spell book is now open, displaying the five games which are Flash, Complete, Crack-it, Hang-up and Jumbles. You choose which game you would like to play first. There are three levels at which each game can be played – easy, medium and hard.

About the games

FLASH: In this one a word is flashed on the screen. You have a few seconds to identify or memorise it before it disappears. You then have to type the word.

If you get it correct, Henry the frog will move one place closer to Henrietta who is standing opposite him. If you answer incorrectly the skeleton will move one place closer to Morgana who is also standing opposite him.

A little warning – one of the skeleton's moves is equal to about four of yours. If you missed what the word flashed was, or need to see how to spell it correctly, press F1 for help.

COMPLETE: The name of the game explains this one. You simply have to complete the word that is on the screen. If you answer correctly then Henrietta, who is on a skateboard, moves one place closer to Henry. If you answer incorrectly it's one move to the skeleton. If you are stuck and need help, press F1 and you will be given one of the missing letters that are in the word.

CRACK-IT: For this sometimes difficult game you have to crack the code to find out what the word is. There is a clue box which gives you what letters should be changed, for example, this is what may be in the clue box: q=p b=a o=n e=d and b=a. The word in the clue box is "panda". So after looking at the clue box I have worked out that the letter I should type in is the letter that comes before the code letter in the alphabet. Sounds complicated, but it's OK once you've tried it.

Again, if you answer correctly, it's a move to you. If you answer incorrectly the skeleton moves.

HANG UP: Well we've all played hangman before and that's all there is to this game. But as well as getting the word before the man is drawn, you have to beat Morgana to the top of the ladders.

JUMBLE: In this game you have to unjumble the letters and make a word. If you are right you get to move, but if you are wrong that dreaded skeleton and Morgana will move.



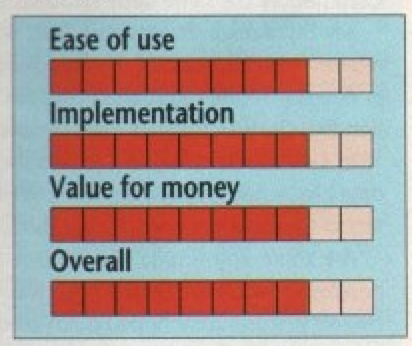


Flash (above left) lets you see a word briefly, then you have to type it. Capital punishment returns for those who don't get the word quickly enough in Hangman (above).

A major feature of Henrietta's Book of Spells is the extensive parent/teacher section which enables easy adjustment to suit every user.

Options

Sound	Determines whether the various sound effects used throughout the program are on or off.
Difficulty	Sets general level of question difficulty.
Clue penalty	Determines the penalty (in seconds) to be added each time the student asks for a clue.
Sections	Chooses the questions that the program is to ask.
Record results	Switches on or off the comprehensive results monitoring facility, to record students' progress.
Size of word list	You can access two lists, either small (up to 50 words for each word size) or large (up to 500 words for each word size). This option determines which will be used.



Henrietta's Book of Spells is a product of Scetlander Limited, 74 Victoria Crescent Road, Glasgow, G12 9JN
Tel: 041-357 1659
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VScan verdict

PRIZE LETTER

I thought I would write in to put the matter straight regarding J Gower's letter in the August issue. Mr Gower complains of not having heard from Arthur Hagen, after sending in his registration "fee" for VScan 4.98c.

Firstly, the registration fee was in fact, and still is, a donation to a childrens' hospital. None of the money ever went into Mr Hagen's pockets.

Secondly, and most importantly, Arthur Hagen includes the following explanation for his lack of response in the latest version of VScan which is 5.06.

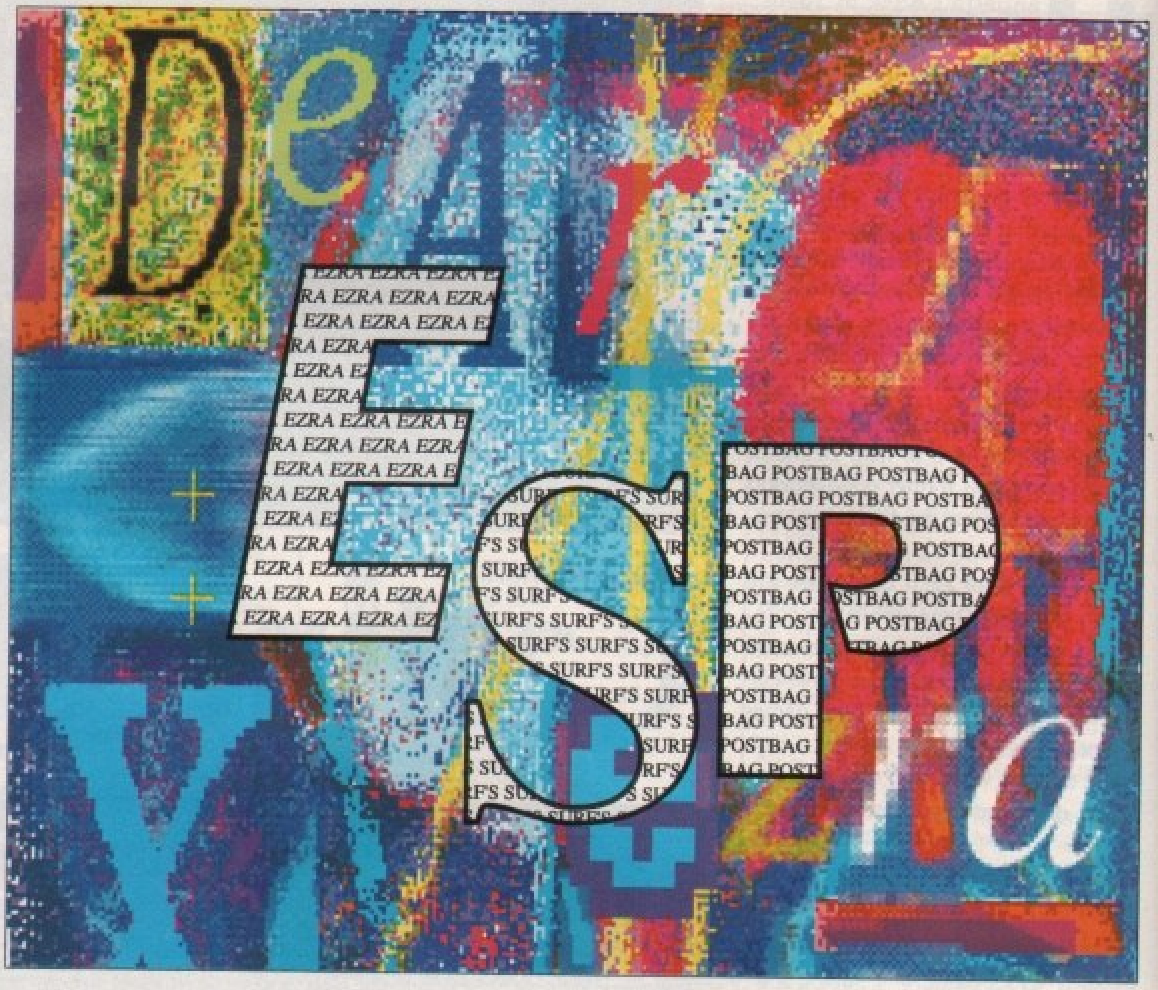
"As my health has failed me, I've spent most of the time since last summer in hospital. This means that I've been unable to answer all letters sent to me regarding VScan. I apologise for this, and trust you to forgive me.

"As I have been unable to answer all letters requesting registered versions of VScan, I've decided to drop the registered version entirely. This means that all functions are now accessible from any copy of VScan, so no registered copy is now needed. I still trust everyone who uses this program to send $10 or more, which will be forwarded to a hospital for rheumatic children here in Norway.

"Please note that my address has changed. The correct address is now: Arthur Hagen, Skorkeberg Alle 13F, N-1440 DROBAK, Norway".

Dave Windera, CIX

Pleased to put the record straight Dave. I hope that everyone who is using VScan sends off their charityware donation to Arthur.



Ripping yarns

I am writing this letter because of some of the contents of your CoverDisk for June 1991. I am referring to those "Superb Samples" in the Samples directory, or more precisely, the "Funky Drummer" sample.

That sample is actually the drum intro to the song "I Am Stretched On Your Grave" from Sinead O'Connor's album "I Do Not Want What I Haven't Got".

Everyone can have their own opinion about using samples from other peoples work in songs (I hate it), but let's keep that debate where it belongs (the court??). The thing of concern here is that your magazine is distributing copyrighted material in the public domain. I realize there are a lot of users out there longing for good samples to use in their music, but I think you should make certain that the samples on the disk are really public domain. Otherwise, I really like the CoverDisk and your magazine, so keep up the good work, but keep the public domain public domain.

Ove Gustavsson, Sweden.

We couldn't get hold of Sinead to find out her views on the matter – she was probably washing her hair.

The debate about sampling does roll on and on, as you rightly point out in your letter. One point I would make though is that *Amiga Computing* CoverDisks are not public domain.

PD pleasure

I would like to take this opportunity to tell everyone what a good service Richard Burman runs. For those who didn't read July's issue, Richard has set up his own PD company, and will copy software on to your disks for a mere 40 pence! (postage included). Two days after I had sent a blank disk to him his catalogue disk arrived. On it was a list of the 200 or so disks in his library, a classified section for advertisements, a contacts section, three great demos, one amazing game and one of the best virus utilities available!

Secondly I would like to ask if anyone can help me to make a backup of my favourite game (Turrican) using Action Replay Amiga MkII. I can save the initial load-up using the SA command, but I'm not sure how to save the memory loaded up between levels. As I like to save my high scores this game is prone to disaster, and besides I would like to know more about the way the Action Replay Cartridge works.

P Bitis, London.

Glad to hear that you are getting good service from a small operator, true to the spirit of public domain.

We can't really help out with your Action Replay problem. It might be worth remembering that even making backups is against the law according to the copyright act. Take a look at the piracy feature in this issue.

Heart of the machine

What happened to Jolyon Ralph's Assembly Language bit? I know you've got Margaret Stanger to do this as well as the Code Clinic but when I do assembly language coding I do more than open a window.

I'm not complaining about what she does but it's a bit low tech for people like me who have programmed in 68000 for two years and have gone beyond the restrictions of the Amiga Operating System.

What's wrong with a separate section for advanced programmers who can swap ideas and things like that?

Another idea also could be "Best Program Award". This could be judged over a three month period or a year and the best program used on the CoverDisk gets a gold star, big tick and a box of jelly babies for the programmer!

This may bring more programs of a higher stan-

Customer complaint

I wonder if you would let me use your letter column to find out if other Amiga owners have experienced from Commodore the same tardy standard of customer care that I have.

My first Amiga developed a fault within one month of purchase and was replaced without question by the retailer – first class service, no complaints. However, I had already registered the purchase with Commodore and in due course the registration card for the first computer arrived. Since May, repeated letters to seek confirmation that the warranty has been transferred to the second computer have not been answered.

In February of this year I joined the "Commodore Registered Users Club" and paid my dues of £17.95. To date I have not received any communication from this "club" run by Commodore. Again, since May all my letters to Commodore concerning this club have gone unanswered.

Are there any Amiga owners out there who are club members and receive their copy of "Command" newsletter regularly? Or are there lots of people like me who believe Commodore have an appalling customer care service and have ripped them off over the users club?

R A Young, Bedfordshire.

It might not seem like it, but Commodore are actually trying harder these days. I think you will find that their Amiga warranty service and user club are authorised by Commodore but not actually directly operated by them.

If you continue to have problems the best thing to do is go back to your dealer and ask him to contact Commodore on your behalf. I hope it all gets sorted out soon.

dard, only needing a little more effort in some areas to produce the best.

At last nearing the end, I must say I enjoyed reading about DMA in issue 38, and hopefully you have plans to talk to other gaming people.

Duncan Chambers, Tyne and Wear

If you have been metal bashing for two years I am sure that our Machine Code column probably is a bit tame for you. The thing is, Almanac is intended for beginners.

We have been looking into a productivity software award for a little while now – ever since we went to wider pages. Keep watching the magazine for some developments in that area.

I'm glad you enjoyed our DMA Design feature. There will definitely be more of the same to come – inside *Amiga Gamer*, which launched this month.

Sound sensation

I am a regular subscriber to *Amiga Computing* through my local paper shop in Swindon, so as to your card in the back of *Amiga Computing* August 1991, if I subscribe I could take my pick of either Sound Sensation or two free games.

Therefore as I am subscribing to your magazine for years to come, what chance have I got to get the exclusive personal sound system?

Colin Jackson, Swindon.

To get your personal sound system all you have to do is switch from newsagent order to direct mail-order subscription. As an additional benefit, you will actually receive the magazine a few days before it goes into the shops.

Thanks for the memory

I would like to talk about things in general in "The World Of The Amiga". Many things are happening that people swiftly pass off but never really understand! For instance, what is Workbench 2 going to be like; why all the fuss about ram and memory?

First off I would like to qualify the amazing stories about internal memory, chip and fast ram and Fatter Agnus.

Inside the Amiga are three custom chips to aid it in animation/ram handling, graphics and sprite control, and sound/peripherals control. These chips are called Agnus, Denise and Paula respectively. These three chips make up the PAD that puts the Amiga above the ST and the like.

The Amiga A500 is now the standard Amiga so we'll use that as an example: inside the A500 there is 0.5 megabytes of chip ram. This is the only kind of memory that the PAD can use so it is very precious.

The PAD can block out the CPU from using chip ram which can drastically reduce the performance of the Amiga, so to combat this any expansion ram is used as fast ram which only the CPU can use. This results in a faster computer overall. In an ideal set-up there should be two times more fast ram than chip ram.

But if you have a 0.5 megabyte internal expansion then that isn't fast ram. Commodore allowed this to be accessed by the PAD but at a much slower rate. For this reason it is called slow ram. It isn't chip ram but the PAD stores some vital information there.

The reason that the PAD can only use chip ram is easily explained. In an Amiga there is fast ram on one side and chip ram on the other; in the middle there is the Agnus chip to keep everything settled. The PAD only has access to the chip ram side while the CPU straddles them both. To expand the amount of chip ram you must expand the Agnus chip.

But why do you need more chip ram? Well, it allows you to multitask more than one program and draw graphics faster; but the most important reason is the advent of Workbench 2.

The new Workbench is double the size of version 1.3. It uses a full 512k. It is stored in read only memory or rom. One law of computing states that a computer functions best with twice as much ram as rom. With Workbench 1.3 this was alright, but to use Workbench 2.0 then you're going to have to buy an internal ram expansion. To provide the punter with more chip ram, all new Amiga's come with a Fatter Agnus as standard. The manuals don't mention this, but it's there.

Most internal ram expansions now have a chip ram capability that allows the memory to be used as chip ram if you have a Fatter Agnus. You do have to solder three wires to the Amiga but it is very simple.

The Amiga A500 comes with 1Mb standard now, and a Fatter Agnus. Soon someone is going to solder those three little wires in the Commodore production plant and some lucky people will have more chip ram.

Just one point: there are three Agnus chip versions.

Fat Agnus – Old Amigas come with this, 0.5 Mb chip ram

Fatter Agnus – New Amiga A500s have this, 1Mb chip ram

Fattest Agnus – I don't know anyone with this but it does exist, 2Mb chip ram!!!

So Commodore has just sent the new Workbench to be finalized in a rom chip and rumours roam wild. But has anyone considered how much ram it's going to take up?

Workbench 1.3 knocks off 110k out of ram just by running so you can expect about a third increase in this for starters. That is until you start adding the optional extras such as scalable fonts and hi-res screens as standard. I can see it taking up much more than 150k. We could be talking up to 300k before programs start running!

At least we will know if Commodore have done a good job! How? Well if all those small programs disappear from PD libraries because they've been made redundant then we know it's good. But if loads more start to appear...! Roll on Workbench 2.1, or even 3.0!

OK, I'll stop moaning. I love the Amiga to death and some more, and I'm saving up my pennies for Workbench 2, and yes, I have got a ram expansion!

Mark Reynolds, Shropshire.

Ahem... Glad you have got that lot off your chest. Let no one be in doubt about your views on Amiga memory!

It shouldn't be too long before Workbench 2.1 is available for the Amiga masses. You are right in saying that Commodore have finally got a version of Kickstart that they are masking into rom.

Ezra online

Ezra Surf can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, get it off your chest online!

Amiga Computing now also has its own Fidonet echo which is being carried by BBS systems up and down the country. Any Fido sysops interested in hooking up should contact 01 for Amiga to receive this echo.

Additionally our mail man with the most, Ezra Surf, hangs out on the following services:

Service	Account number
Micronet	999900263
Telecom Gold	74:MIK911
CiX	amigacomputing
CompuServe	70007,4734
The Direct Connection	uad1132
01 For Amiga	Amiga Computing

Sealed off

I have come to a stage with my Amiga 500 that I now need extra memory. As I am interested in making music, I have a growing range of samples and it really sets me back when I cannot load some of them into memory.

Anyway, to the point. I recently saw an advert for ram expansions to fit in the expansion slot on the bottom of the Amiga (1.5 meg in my case), and I was about to send off for it. But first I phoned up Commodore and asked them if it would invalidate my warranty.

They said yes, if you break the seals on the bottom of the computer. But the expansion slot on the bottom of the Amiga doesn't have any seals – or are they hidden? The company who supplied the ram expansion said it doesn't invalidate the warranty, so do many other companies. Either Commodore or the company are wrong or have I got confused somewhere along the line? Please help me.

Could you also tell me which Midi synth works best with the Amiga, for around £300? I don't want to invest in a top of the range synth yet as I just want to experiment.

Stuart Green, Birmingham.

You will not invalidate your warranty by fitting a ram expansion in the trapdoor slot. There are no warranty seals, invisible or otherwise.

According to our music maestro, Paul Austin, the best option in your price range to look at is the Roland CM-32L Midi module and a cheap keyboard like, for example, the Roland PC-200.

Postal pursuits

Over the past few months in your postbag I have seen several letters about ordering goods by telephone.

To do a bit of comparing, I ordered items from different companies. (I would have done this anyway as it's amazing the differences in price you get if you search through a whole *Amiga Computing!*)

The best delivery time was by MJC Supplies of Letchworth. I ordered the goods by phone and Connect card on Monday morning at about 10am and received the goods the next day in the post! I ordered from them again and the same happened!

I have found that the average delivery time is about four to five working days.

Mind you it doesn't always run smoothly. I placed a small order with another firm on 6th July as their advert states "Same day despatch".

I decided to ring them this evening (15th July) and they advised me that my goods were still in the despatch depot, as some of their staff were on holiday. During the conversation I mentioned the phrase "Same day despatch" flashed on the top half of their advert but was told that this only applied to orders sent by courier. I looked all over the ad but saw no mention of this! Anyway this hiccup won't put me off ordering by phone and card as the mail order compa- ➤

nies offer the best service, the best range of goods and the best prices.

I have also decided to dive into the PD market after looking through the articles and ads in the magazines and have been impressed by some of the software that I've received and the prices – well what value!

I've decided now to stick with 17-Bit Software as they give you a customer number (unique I think) and that when I tried to order from a library that describes itself as "The fastest, friendliest and most reliable library around" I received the lovely reply, "Huh, we're not taking any orders now!"

I would also like to say that I have bought several Amiga mags but none are half as good as the content of *Amiga Computing* and the CoverDisk, or have produced such a good idea as the Workstation disk. Keep up the excellent work!

Mark Steele, Dorset.

Credit where it is due on the mail order front. Sorry to hear that one of the companies you trusted with hard earned cash didn't live up to your expectations.

Any readers who have problems with mail order firms who advertise in *Amiga Computing* should write to our very own Roger Cook – Michelle Allcroft. The address is on page four of this issue.

PD libraries do tend to vary enormously in quality and service. And 17-Bit are not unique with membership numbers, but they were certainly one of the first to do it.

The HakPak

I enjoy your magazine. I read it when my Dad has finished with it. I am writing to ask you if you could publish some cheats for New Zealand Story (if any). Also it would be convenient if you publish cheats and maps for Shadow Dancer. I would be very grateful if you could.

Jonathon Whitefield, Milton Keynes.

Look out for lots of cheats to come in our brand new *Gamer* mini-magazine and the Gamer HakPak series which started in this very issue of *Amiga Computing*.

CoverDisk cribbing

I run an Amiga user group which has a public domain library for its members. We charge £1.00 inc. P&P per disk. We are always being asked for copies of your old CoverDisks. Looking in your latest issue (Aug 91) you only have back issue disks from February 91. I have all your CoverDisks (as I always buy *Amiga Computing*) from August 89.

I would like to formally request permission to provide your CoverDisks as public domain to our members. The disks format/layout will not be changed in any way. The issues are to be from August 89 to January 91.

I am not trying to make any money out of this, but your disks are always well put together and it seems a shame to deprive new Amiga owners from the excellent programs you have provided in the past. Indeed, it will show our newer members that your magazine is worth buying each month.

D A Shreeve, Norwich.

Thanks for taking the trouble to seek our permission before distributing our CoverDisks to the masses.

As you are no doubt aware, our disks are not public domain. Some of the programs on the disk are PD and shareware, while others are written specifically for *Amiga Computing*.

We don't really mind our disks appearing in the public domain after a suitable period has elapsed. The hard and fast rule is that we won't complain about our disks being made "public" as long as they are left entirely intact and are only distributed six months after they originally appeared sellotaped to the cover of *AC*.

Going for a ramble

I, being a mere stripling of a 21 (soon 22) year old, have something of a history in the computer world. (Adopts aged Yorkshire accent, á la Monty Python sketch.)

I can remember when a little black box was all the rage, built by Sir Clive Sinclair, with a touchpad keyboard and a staggering 1k of ram. My brother bought one of these in a rare fit of woefully short lived techno-appreciation, and grew quickly bored of it. Then I got hold of it, and the computer "virus" bit me, and I've been hooked ever since.

I can remember thinking how powerful my little touch-sensitive micro was, with its 16k ram balanced at the back with one part skill and three parts wishful thinking. Leaping into a convenient time machine, we jump forward, brief flitting images of a Spectrum (earth shattering 48k and eight colours!) and a C64 (with two speed disk drive – the speeds being slow and stop. Later replaced with three speed – slow, slower and stop) we arrive at the present day, and a Commodore Amiga 500.

Getting to the point (finally! I hear you cry, or rather I hear you wail dramatically, loosening the noose and putting the safety catch back on the .45). My old faithful Amiga, bought when everyone eagerly awaited EA's stunning flight sim cum blaster, Interceptor, has seen some upgrading, all done within the same, now battered and stained, case.

First a 512k expansion, then a second drive, a 1084 monitor, an LC-10 colour printer, and more recently, a Kickstart 1.3 and a 68020 processor with 4 megs of luvverly ram.

I would like to use your pages to extend congratulations to all concerned over The Secret Of Monkey Island, not only a wildly entertaining adventure and the most fun you can have with a computer, but an adventure that responds to my sense of logic! I find myself cruising through the game, with little to baffle me for too long. More, please.

Sorry for robbing you of much of your letters page, but I have a tendency to ramble uncontrollably, much like my guru, Jean-Michel Jarre, who rambled for 47 minutes on one track of his last album. Ho hum, bye now.

Paul Kerrigan, Coventry.

You ramble uncontrollably and I hack and slash letters with a similar enthusiasm. Somewhere we meet in the middle I guess!

I had a ZX81, then a Spectrum, then an A500 and now a rather beaten up 2000 – and I love them all.

I am sure that US Gold will be delighted that you enjoyed Monkey Island.

Back issue blues

I am writing to you, hoping that you will be able to help me in the matter of obtaining some issues of your magazine.

After buying the September issue "off the shelf", I decided to place a regular order with my local newsagent. When the October issue arrived, however, there was no disk on the cover – the cover had been ripped where the disk had been removed. This was pointed out to the newsagent, who apologised and said he would contact the warehouse and despatch the disk as soon as possible.

A few days later, I was told that the warehouse required the magazine to be returned and a new copy and CoverDisk would be sent out. By this time, I'd been billed for the issue I had, so was a little reluctant to send it back, but I did none the less – after all, I was going to get it back...

I'm still waiting!

Now I have been told that the current issue (June '91) has gone missing. I was then told that as the new issues are coming out, I would not be able to get hold of the current one and if I saw it, buy it there and then!

This set me thinking that if they can't get me an issue one month old, what hope have I got of receiving my issue from last October?

I hope you will be able to advise me on this matter. I know I can get recent issues from your mail order service, but the list provided only goes back a few months. Are the previous copies still available?

Ian, Tyne & Wear.

Back issues seem to be a real problem I'm afraid. The sad fact is we under estimated the popularity of the magazine in our windswept youthful days and now our back issue cupboards are fairly bare.

Europress Direct always offer back issues for the six months preceding the current issue. If you are looking for anything older you are on your own.

Early copies of *Amiga Computing* are known to be changing hands for toe-curling sums of money in the Amigaland underground community.

Game over?

Over the past few months I have seen Tanx and Rollerpede turn up in PD libraries on a four game collection. Are these the same versions that you had on your CoverDisks and are they really PD?

Jennifer Byme, London.

Yes and no respectively. We own Tanx and Rollerpede but that hasn't stopped PD libraries from taking them on. As I have said elsewhere, we are not going to get too shirty as long as six months passes between the original release and PD distribution.

Where individual programs are taken off our disks, the DOC files must clearly state that the software came from an *Amiga Computing* disk.

Write away!

Got something to say through the pages of *Amiga Computing ?*

Ezra Surf is our mailman, dedicated to sitting in a corner reading your letters and selecting the most interesting for publication.

Ezra's favourite letters now get rewarded with exclusive *Amiga Computing* designer T shirts.

Drop him a line at: **Ezra Surf's Postbag,** *Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.*

amiga almanac

CDTV inside and

Jolyon Ralph takes a screwdriver to his CDTV

If you've been reading about CDTV recently, you will know that Commodore are going to great pains to convince people that it isn't a computer. You may also know that inside the black box is something not too dissimilar from the Amiga 500 with a compact disc drive bolted on.

So, with screwdriver in hand, I dismantled my CDTV to find out exactly what's inside it, and I discovered a few interesting things.

The first odd thing about the CDTV is that the circuit board is right at the top of the case, with the drives, expansion slots and power supply taking up most of the space below it.

Despite the small size of the unit there is still a considerable amount of free space inside the box – certainly enough to mount an internal hard disk, for example.



Power up – switch on – bootup – The CDTV front screen

The CDTV can play music discs as well as software titles

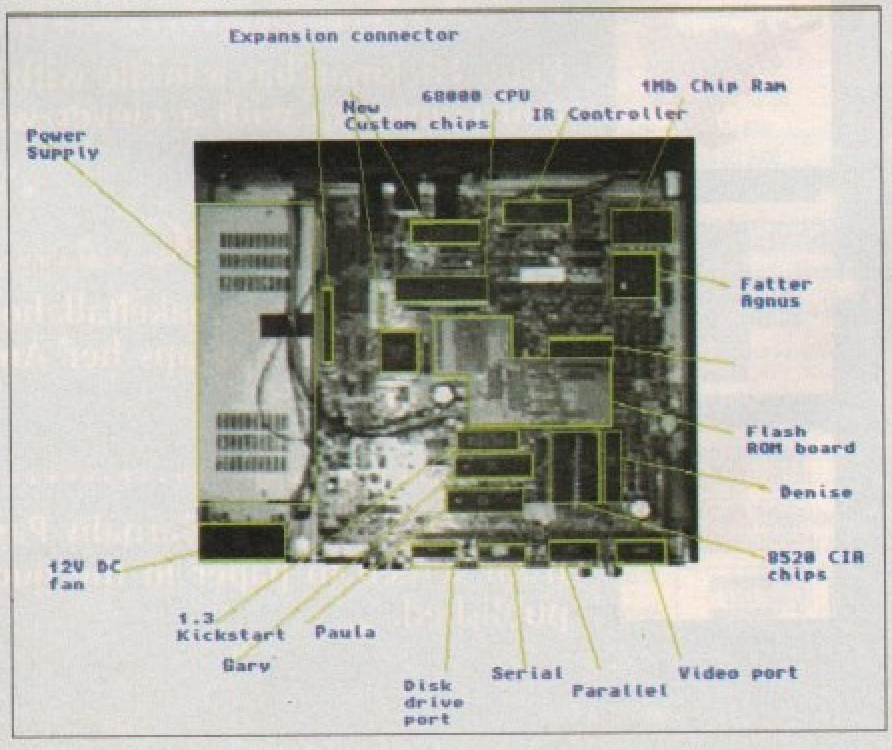
Custom interface

The general build quality of the machine is good, there is a nice, large power supply which can quite easily power lots of internal and external peripherals, and a, little fan to keep everything cool.

The Panasonic CD-ROM mechanism lives underneath the circuit board and is not, as many people assumed, a SCSI CD-ROM, but has a custom direct interface which was, presumably, much cheaper for Commodore to incorporate. It has a capacity of about 540Mb (that's the same as 700 floppy disks!)

In standard mode it can transfer at 153Kb/sec, which is about average for a CD-ROM drive. The much talked-about burst mode which allows 2Mb/sec data transfer is really not relevant, as a burst transfer only lasts a small fraction of a second, and so the overall data transfer rate is still no higher. Under mode 2 transfers of 170Kb/sec are possible, but to use this the AmigaDOS file system must be abandoned and the data read directly from disc.

Also under the board is what looks like a miniature 3.5in disk drive. On closer examination it reveals itself to be a drive for smart ram-cards, like those found on some portable computers, and on many Midi instruments.



Socket to 'em!

The cards will come in 8Kb, 64Kb, 256Kb and 512Kb sizes, and are to be used for saving data from the CDTV. It appears as a standard Amiga device and can be written to just as if it was a floppy disk. It doesn't in itself give the CDTV any more usable Ram.

The circuit board is not, as was widely rumoured, identical to the Amiga 500. It is a totally new design, and is a lot more complex.

The Amiga 500 has only eight large ICs, the CDTV board has 14 large chips. Several of the small chips are surface mounted.

Surface mount technology is relatively new. It allows even greater densities of components to be placed on a board, but makes repair at the best difficult, if not impossible.

All the major chips are socketed, which makes replacement easy, and there are some old friends, and some new arrivals among the chips on the board.

The largest chip on the board is the 68000. It's a straight, 8Mhz chip, which is a little disappointing. Many people were expecting at least a 16Mhz chip, which costs only a few pounds more yet offers a great performance benefit. In the end Commodore probably decided to stick with the standard 68000 to make Amiga to CDTV conversion a relatively easy and hassle-free process. Easy conversions means more software, more software means more CDTV sales for Commodore, which will benefit all of us in the long run.

The Amiga's custom chips are there too; Fatter Agnus, Paula, Denise and Gary. The Denise is the original old Denise chip, the new ECS Denise chip doesn't offer many advantages when displayed on a television – which most CDTVs are destined to be connected.

The odd and even CIA chips are there, and these control the disk drive, mouse port, parallel and serial ports. Strangely there is only one mouse/joystick port connected to the back of the machine. If you want to play two-player games then you will either need one person using a wired joystick and the other using the remote control, or you will have to wait for Commodore's infra-red joystick controller, which will control two standard joysticks.

Our old favourite, the Kickstart 1.3 rom is on the board too. It is a plain, unadulterated (ie the bugs haven't been fixed) Kickstart 1.3 rom. Commodore have told developers that the CDTV will never

dout

support Kickstart 2.0 again, for compatibility with present "titles".

There are two extra sockets for the CDTV's custom roms. These contain the flashy graphic sequences and all the code needed to drive the CD.

At the moment there is a small daughter-board plugged into these sockets which carries two flash roms (or EEPROMS – Electrically Erasable Programmable Read Only Memory). In fact, rom is a bad word to describe these, as they are fully reprogrammable under software. The idea behind this is that if any major problems are found with the CDTV operating system, it can be upgraded in existing machines just by running a floppy disk in an attached disk drive. Later production machines will have these flash roms replaced by standard rom chips, as soon as the existing code has been declared 'bug-free'.

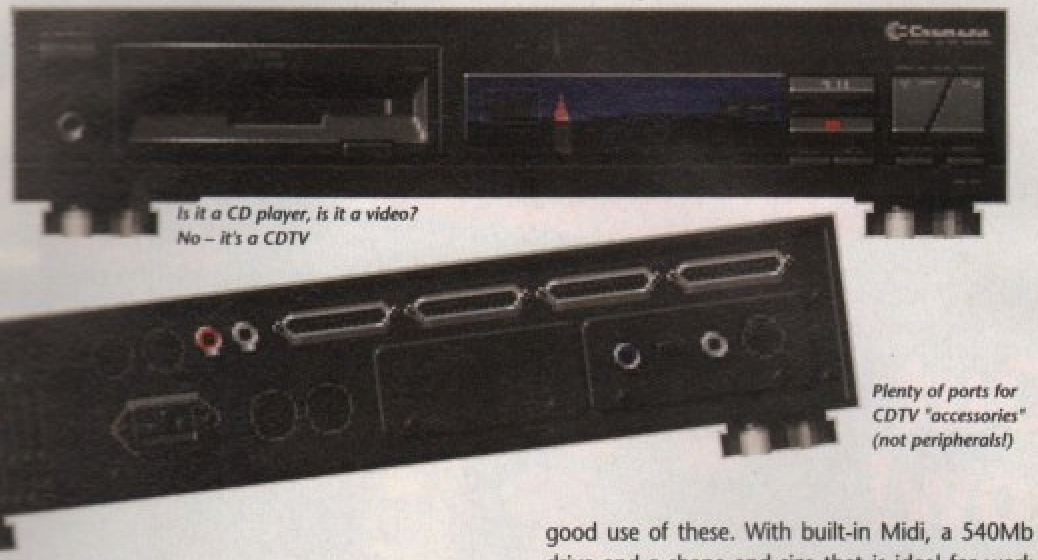
There are three new custom chips thrown in for good measure. These control the CD-ROM, the ram card drive, the front panel and the infra-red receiver.

The CDTV has 1Mb of chip memory fitted as standard, there appears to be no obvious way for the machine's memory to be expanded at all. This, from Commodore's point of view, is a good thing, as it means that there will only be one CDTV configuration available, which makes life a lot easier for "title" developers. A CDTV disc is called a title. Commodore don't want people using the word software as they don't want the CDTV thought of as a computer.

Full motion video

There is a spare, unlabelled, expansion socket on the mother-board which appears to pass through the processor bus, in the same way the expansion bus connector on the A500 does. Although this is not documented anywhere, it would seem that this is where the under-development Full Motion Video (FMV) board will fit in. Currently the CDTV can only display moving video images using Commodore's proprietary CDXL system, which displays 1/4 screen images at 15 frames per second, a little short of the full-screen images at 25 frames a second needed by FMV. Philips and Sony, who produce the rival CD-I system, have announced that their machine will ship with FMV support next year.

The problem with Full Motion Video is with the CD-ROM unit. CD-ROM is not very fast at transferring data. It's faster than floppy drives, but not a lot. A typical Amiga hard drive will transfer somewhere between 500Kb and 1000Kb of data per second from the drive into memory. For a CD-ROM the transfer rate is around 150Kb/sec. Now, a full-screen compressed HAM image will take up about 50Kb, so if you wanted full-screen video from a CD-ROM you would only get three frames per second displayed. For true full-motion, you need to compress these HAM images down from 50Kb to about 6Kb. Impossible? With a standard CDTV, yes, but with some complex and very powerful custom processors, video images can be compressed down this far and decompressed back in real-time for display with very little loss in picture quality.



Is it a CD player, is it a video? No – it's a CDTV

Plenty of ports for CDTV "accessories" (not peripherals!)

External input

Turning our attention briefly away from the insides of the machine and to the back of the case we find an assortment of ports which are familiar to most Amiga users.

Standard parallel, serial, monitor, audio and disk drive ports are connected. The disk drive port is slightly different in that it is wired up so that the first external drive is df0:, the second df1: and the third df2:. The CDTV can only support three floppy drives, rather than the four that the Amiga can support, as there is no internal floppy drive and the 23 way connector only has enough lines to operate three drives.

Next to these ports are two small mini-din connectors for keyboard and mouse. It was very disappointing to find that Commodore did not put standard joystick/mouse/keyboard connectors on the CDTV, particularly as apart from the shape of the connectors they are totally standard. If you have a CDTV and you want a keyboard connected to it, all you have to do is get an Amiga 2000 (or 3000) keyboard and wire up a DIN to mini-din converter cable using the following pins:

Mini-DIN (CDTV)	DIN (keyboard)
1	4
2	2
3	1
4	5

Underneath these standard ports is the power connector, a standard kettle lead power connector and, for the first time in an Amiga-based machine, Midi-in and out connectors. Already there are titles like Music Maker which can make good use of these. With built-in Midi, a 540Mb drive and a shape and size that is ideal for work on-stage it would not be surprising to see the CDTV making quite an impact in the music scene over the next couple of years.

To the right of the Midi ports are the two expansion slots. The slots are not very big, the connectors look similar to the type of edge connectors used in Commodore 64 cartridge games, so there won't be a lot of room for complex circuiting on them. The Video slot comes occupied with the modulator. The PAL modulator has RF in and out (You can plug the CDTV in between your video and your TV without having to re-tune everything) and a composite video output. The NTSC modulator also has super-VHS output, but we don't get that yet over here.

There is an optional Scart connector board which gives a Scart plug instead of the modulator. I'd recommend not getting this, but buying a cheap Amiga-Scart lead instead and using the CDTV's 23 way connector. This leaves the CDTV modulator intact so you can use it on a non-Scart TV without having to switch boards over.

Digital Creations in the States, the manufacturers of the highly popular – but NTSC only at the moment DCTV 24-bit graphics add-on for the Amiga have built an internal version of the DCTV (called DCTV-CDTV!) which will fit into the video slot. This will then give the CDTV full 24-bit quality graphics, which will help to narrow the technical gap between CDTV and the rival but much more expensive CD-I system.

The other expansion slot, currently empty, is for future CDTV add-ons including a 100Mb Internal hard drive! Don't expect this one for a while though, the current cost of 2.5in 100Mb hard drives is as much as the CDTV itself! No doubt there will soon be a vast array of weird and wonderful third party devices to fit into the CDTV. Now, can you imagine a home use version of the Video Toaster for the CDTV.

The future for the CDTV is going to be an exciting one. Stay tuned....

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DP – your flexible friend

What's the best video titling package on the Amiga? Jason Holborn reckons it's Deluxe Paint!

It's a common misconception that you need a titling package to produce titles for your videos. Sure, it's nice to have a package that will scroll text around the screen at every conceivable angle, but the fact is that many professional video engineers get on quite nicely with a package that is arguably better suited to artists.

That package is none other than Electronic Arts' Deluxe Paint 3.

Deluxe Paint is a very capable video titling package. It may not have the range of fonts that Broadcast Titler has to offer, but even then it doesn't take much to build up a fairly decent collection – a quick trip to your local PD library is usually all that is needed.

So why is DPaint such a favourite among video producers? The reason is simple enough – despite all the bells and whistles that programs like Broadcast Titler may offer, no other package can match DPaint for its shear flexibility.

I'm lucky enough to own a fair old selection of video applications including such industry hard hitters as Gold Disk's brand new ShowMaker system, Broadcast Titler 2 and even that old faithful, the Big Alternative Scroller.

You may think that these programs could more than handle the job of video titling, but I still find myself using DPaint more than any other package.

I recently visited a video post production company in Trowbridge, Wiltshire. The company's studio was decked out to the gills with a full range of professional video equipment ranging from Sony U-Matic decks and video mixers to Chromakey and time base correctors.

Sitting in the corner of this power-packed studio was the workhorse of the whole system – an Amiga 2000. Mating the two together was a G2 Systems' broadcast quality genlock.

Like most video production companies these days, they too relied almost exclusively on DPaint for the vast majority of their work on the Amiga. A video titling package was also on hand, but this rarely managed to make the journey from hard disk to Amiga memory. This certainly didn't seem to be a financial decision – the firm's two Sierra Cosworth company cars (one of which I took for a spin afterwards!) was more than enough to convince me that they were doing very nicely thankyou.

Using DPaint for video titling may create a bit of extra work, but the results are usually better. Obviously DPaint can't handle scrolling too well (although there are ways around this), but there's no better package available for knocking up screens for inclusion within your video productions.

As long as you have a decent collection of fonts, you can produce static screens that cannot be matched in terms of quality. And now, with the release of Deluxe Paint 4, you can even create titles mixed with HAM images.

I'm currently experimenting with Black Belt's 24-bit graphics extender HAM-E, mixing its output with high resolution video titles using Deluxe Paint. The results I've managed to obtain so far are certainly impressive (well, I like them!).

Animation

Being able to mix 24-bit images and high resolution colour fonts with a video source is simply wonderful. I know one thing for sure – my video productions have never looked better.

DPaint's animation facilities are also a real boon to a video enthusiast like myself (especially now that it has a true Lightbox facility). With DPaint, anyone can produce titles and graphics that tumble and turn through 3D space within a matter of minutes. A few years back, such technology would have had the BBC green with envy!

The real power of DPaint lies in its painting tools, however. Using DPaint's Smooth tool, it's possible to simulate anti-aliasing like that to be found within Broadcast Titler 2, therefore giving your titles the illusion of being of a much higher resolution.

This works particularly well on monochrome titles (white on black especially), but it's also possible to get colour fonts smoothed out.

Using this technique can be tricky, however. A good bet is to draw a rectange the same size as the title to be anti-aliased and then pick it up as a brush. Now, with smoothing turned on and the freehand draw tool selected, place the brush over the title and click once on the left mouse button. DPaint will then anti-alias the entire block of text underneath the rectangle. If the results still aren't as smooth as you'd like, just repeat the process until you're happy.

As you probably already know, a good tip to make your titles as readable as possible once they are laid down onto video tape is to add a border around each character. Black is always the favourite, but it's worth noting the predominant colour of your video source before deciding which colour to use for the border.

You'll notice this technique being used extensively on television, so next time you're watching the news, keep your eyes open for video titling tricks like this.

Add a border

You can add a border to your titles very simply using DPaint's powerful 'Outline' function. To use it, you must first type in the text to be used, then pick it up as a brush, select the border colour to be used and then select 'Outline' from the pull down menus (alternatively, just press 'o' on your keyboard).

DPaint will then add a single pixel border around the outline of the brush. If this proves to be too thin (which is all too common if you're using DPaint in high resolution), then just keep repeating this process until the border reaches the desired thickness.

You can also create simple strobe effects using the Outline tool simply by changing the colour to be used everytime you add a border to the same brush. Used carefully, this can create a quite pleasing effect, but it's also very easy to create some quite garish effects. Be bold and colourful, but don't go over board!

Thanks to DPaint's powerful brush handling, such effects as extruded titles are incredibly easy to produce. All you have to do is to pick up the text to be extruded, click on the DPaint line tool, position the brush onscreen by pressing the left mouse button (and keeping it pressed) and then dragging out the brush to create the extrusion effect.

Obviously the extruded section of the text will be the same colour as the face of the text (which can make it rather unreadable), but you can get around this either by adding a border to the title (as described above) or by setting the current background colour within the DPaint icon strip to a different colour and then dragging the brush out again, but this time using the right mouse button.

Deluxe Paint may not seem to be the best tool for creating video titles, but if you work at it, some quite astounding results can be achieved.

Indeed, it's possible to produce screens that just wouldn't be possible within a dedicated titling package. You obviously need to have a fairly good working knowledge of DPaint, but then who doesn't?



Titling with DP – as easy as ABC...



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Item	Price
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A500 1Mb Cartoon Classics	£379.99
A500 1Meg Screen Gems	Call
A500 First Steps	£459.99
A1500 Options from	£669.99
A3000 16Mhz + 40Mb HD	£2089.99
A3000 25Mhz + 40Mb HD	£2509.99
A3000 25Mhz + 105Mb HD	£2924.99
A1084S Colour Monitor	£254.99
A1950 Multisync	£439.99
A590 Options from	£289.99
A1011 1Mb 3.5" Drive	£79.99
A501 Ram Expansion/Clock	£44.99
A520 TV Modulator	£24.99

Hardware/Peripherals

Item	Price
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A gambling passion

Margaret Stanger leaves everything to chance

The throw of a dice, the spin of a wheel, or even the selection of a raffle ticket all help to give life some of its excitement. Using a pseudo random number generator on the Amiga shows that some numbers are more random than others!

In some computer languages it is possible to enter a range, say, 1 to 10, call up a command, and the computer comes up with a random number in the range – just like magic. I looked hopefully in the Amiga libraries for a random number generator, and ended up adapting a routine from a book.

The program on the support disk has random number and timer routines in source module time.a, and the main program in source module digit.a. Both of these are fully commented .

Most computers use a pseudo random number generator, which gives a series of random numbers, starting from an initial number or seed. Each time, the number is modified by a bit of arithmetic so that it will be different next time it is used.

My routine doubles the number each time, and EORs it with a fairly arbitrary constant – it could have been more creative. To give a number in the correct range, the number is divided by the range and the remainder gives the magic number:

```
_random: ;maximum number is in d7
movem.l d0-d1/a0,-(sp)
clr.w    d6  ;clear d6 for return
move.l  d7,d1 ;copy range to d1
tst.w   d1
beq     zer1 ;exit if range is zero
lea     randseed,a0 ;think of @l = a number
move.l (a0),d0
add.l   d0,d0   ;double it
bhi.s   over
eori.l  #$1d872b41,d0
 ;eor it with a constant
over:
move.l  d0,(a0) ;save the number
andi.l  #$ffff,d0
divu    d1,d0   ;divide by range
swap    d0      ;save remainder
add.w   d0,d6   ;return value in d6
zer1:
movem.l (sp)+,d0-d1/a0
rts
```

The main program calls the generator twice, once for a digit between 0 and 9, (range 10, offset 0) and once for a colour between 8 and 10 (range 3, offset 8):

```
selection:   ;select colour
clr.l   d7 ;input number range   move.w  #3,d7
jsr     _random ;call routine
ext.l   d6
add.l   #8,d6   ;add offset
move.l  d6,randcol ;save the answer
clr.l   d7       ;select digit
move.w  #9,d7
jsr     _random   ;call routine
ext.l   d6        ;no offset
move.l  d6,randnum ;save the answer
rts
```

The digits are stored with the other pictures on a DPaint screen, solid digits in colour 15. Each digit can be used as its own mask (minterm $20), and then used again (minterm $60) in the selected colour:

```
digitmask:
move.l  #0,d2
move.l  #186,d3
move.l  #-32,d0 ;source x coord
move.l  randnum,d1
shift:   ;digits 32 pixels apart
add.l   #32,d0
dbra    d1,shift
move.l  #148,d1
move.l  #32,d4 ;width
move.l  #37,d5 ;height
move.l  #$20,d6 ;minterm
move.l  #$ff,d7 ;self masking
move.l  #0,a2
lea     BMpix,a0 ;source bit map
move.l  graphicsbase,a6
jsr     LVOBltBitMap(a6)
rts

digitpic:
move.l  #0,d2
move.l  #186,d3
move.l  #-32,d0
move.l  randnum,d1
shift2:
add.l   #32,d0
dbra    d1,shift2
move.l  #148,d1
move.l  #32,d4
move.l  #37,d5
move.l  #$60,d6
move.l  randcol,d7
move.l  #0,a2
lea     BMpix,a0
move.l  graphicsbase,a6
jsr     LVOBltBitMap(a6)
rts
```

Strict tempo

We have all seen games where the hero has been slowed down when there is a lot of other activity on the screen. It is possible to ensure that each game cycle takes exactly the same time, whether the hero is on his own or surrounded by enemy missiles.

We can set an exact time interval in microseconds, and only continue with the next game cycle when the chosen interval has elapsed.

The software routines for reading and writing the time are not in any of the libraries, but in a timer device. The name device suggests hardware, but it is only a collection of software routines like a library.

When a device is opened, there is an associated parameter block. This structure contains all the structures a device may need to handle incoming and outgoing messages – the structures are nested like Russian dolls.

The message structure includes a node, which keeps the messages placed in a linked list, a message port for replies, and the length of the message in bytes. The message port in turn has its own node, flags, its own signal bit, its task, and a pointer to the header of the task list.

For reading and writing the time, messages are not required, and most of the values and pointers are null. The IO request structure:

```
STRUCTURE  IO,MN_SIZE  *message
APTR    IO_DEVICE    * device node pointer
APTR    IO_UNIT      * unit (driver private)
UWORD   IO_COMMAND   * device command
UBYTE   IO_FLAGS     * special flags
BYTE    IO_ERROR     * error or warning code
LABEL   IO_SIZE
```

there is also an extended block for timer requests:

```
STRUCTURE TIMEREQUEST,IO_SIZE
     STRUCT      IOTV_TIME,TV_SIZE
     LABEL       IOTV_SIZE
```

using values from the TIMEVAL structure:

```
STRUCTURE TIMEVAL,0
        ULONG       TV_SECS
        ULONG       TV_MICRO
        LABEL       TV_SIZE
        LABEL       IOTV_SIZE
```

The timer device was set up, and a timer request block initialised for the commands and the data:

```
 _timerdevice:  ;set up a timer device
move.l  AbsExecBase,a6
lea     devicename,a0 ;open timer device
 move.l  #0,d0
lea     timer_request,a1
 move.l  #0,d1
 jsr     LVOOpenDevice(a6)
 tst.b   d0      ;exit if unsuccessful
 beq     timerout
lea     timer_request,a3
;fill in the request block details
move.b  #5,LN_TYPE(a3) ;message type
move.b  #0,LN_PRI(a3)  ;priority zero
move.l  #0,LN_NAME(a3)  ;no name
move.l  #0,MN_REPLYPORT(a3)
   ;no replyport needed
```

The time could then be set, with seconds as -1, and the micro seconds at a suitable negative value, at the start of the game cycle:

```
_settime: ;set the time
move.l  AbsExecBase,a6
lea     timer_request,a1
lea     IOTV_TIME(a1),a2
move.l  #-1,TV_SECS(a2) ;-1 seconds
move.l  d0,TV_MICRO(a2) ;input value
lea     timer_request,a1
 move.w  #TR_SETSYSTIME,IO_COMMAND(a1)
jsr     LVODoIO(a6)
rts
```

The program can wait for the end of the interval, when the micro seconds count down to zero before the next game cycle starts:

```
_waitbit:   ;get the system time
 move.l  AbsExecBase,a6
lea     timer_request,a1
 move.w  #TR_GETSYSTIME,IO_COMMAND(a1)
 jsr     LVODoIO(a6)
 lea     timer_request,a1
 lea     IOTV_TIME(a1),a2
 move.l  TV_MICRO(a2),d2 ;are microseconds at zero?
@l = bmi     _waitbit   ;wait a bit longer if not
 rts
```

When the program is over, the timer device is closed, and the memory released:

```
_closetimer:   ;close the device
 move.l AbsExecBase,a6
 lea     timer_request,a1
 jsr     LVOCloseDevice(a6)
 rts
```

And finally

Remember the random number generator? If the initial number is not "seeded" the sequence of numbers will be the same every time the program is run. By reading the time – at the BEGINNING of the run, before setting the timer – a reasonably unique number of micro seconds can be used to seed the random number.

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Midi micro please!

Jason Holborn takes a look at what the PD libraries have to offer the MIDI musician on a budget

By its very nature, MIDI has always been a rather expensive hobby to get involved in. With MIDI interfaces costing £25 and even fairly basic synthesisers costing upwards of £500, you've got to have a fairly friendly bank manager to even get started. Once you've bought all that kit, you still have to buy some decent software.

Thankfully, though, getting together a decent collection of MIDI software needn't cost an arm and a leg. Thanks to the miracle of public domain, there's a wealth of MIDI applications out there just waiting to be used. Here's a run down of a few PD MIDI utilities that I use myself. Check with your local PD supplier for more.

MIDI LIBRARY (Fish #227) – If you fancy yourself as something of a mean coder, then the MIDI library could well be what you've been looking for. Writing MIDI applications from scratch can be a frustrating task, but the MIDI library takes much of the work away, leaving you to concentrate on your application.

The library contains every routine you will ever need to write MIDI applications, without having to get your hands dirty with all the low level nitty gritty. Whether you're coding in BASIC, C, Modula-2 or even assembler, the MIDI library can be directly accessed like any other Amiga library. Programmers should check it out.

ROLAND S220 (Fish #225) – Owners of Roland's rather naff little sampler will love this one. Roland S220 (great name, eh!) allows you to receive and transmit sample dumps to and from the Amiga and the S220 via a MIDI interface. Don't mistake this for an editor, though – it's really nothing more than a librarian.

ROLAND D110 (Fish #225) - Sound cards for Roland's super little LA synth are jolly expensive (I should know, I used to own one!), so this program comes as a real godsend. Put simply, this program will allow you to transmit and receive patch data from the Roland and store the resulting files on standard Amiga disks (which are considerably cheaper than ROM cards!).

MIDI TOOLS (Fish #159) – Someone may find this collection of tools useful. It's basically a collection of miscellaneous MIDI utilities to carry out such tasks as creating MIDI echo (which is handy if you don't own an effects unit), storing System Exclusive data (SysEx data) and there's even a neat little on-screen keyboard which allows you to play notes on your MIDI keyboard by clicking with the mouse on the onscreen keys.

DX-SYNTH (Fish #82) – Yet another patch librarian, but this time it's for the Yamaha DX range of synths (DX7, 21, 100 etc). Just like the Roland D110 program, DX-Synth allows you to store patch data on inexpensive Amiga disks.

PANL (Fish #82) – I couldn't quite get this to work too well, so buy it at your peril. It claims to be a universal MIDI parameter controller, but I certainly couldn't get it to work beyond a few basic functions. If you're prepared to persevere though, you may well find it to be a real gem of a program.

SAMPLEWRENCH (Fish #307) – Owners of 12 and 16-bit samplers will flip at this goodie. It's not quite a fully working program, but instead it's a demo of a commercial product from the US-based company Dissidents. I had a play with the full program a few months back and was thoroughly impressed, so this demo is definitely worth getting hold of.

Sample Wrench is designed to allow owners of MIDI samplers that support the MIDI sample dump standard to edit and store 12 and 16-bit samples on the Amiga. Just like AudioMaster III, Sample Wrench displays your samples in graphical format allowing you to cut, paste and copy to your heart's content.

One very nice feature of the Sample Wrench program is that it allows you to preview your samples using the Amiga's internal sound hardware, therefore avoiding the time it takes to dump back to the sampler. As we all know, MIDI can be terribly slow at times, so this feature is a



SampleWrench: thoroughly impressive demo

real time saver. Obviously the sound quality doesn't quite match that of a Synclavier, but it's a nice feature none the less.

It offers powerful Fast Fourier Transformation, digital equalization, crossfade looping (just like the Emu EMAX!) and a lot more besides. If you own a pro sampler, then beg, borrow or steal a copy of this program now.

CZ EDITOR (Fish #323) – Here's a real demonstration of the quality and value for money of PD software. Patch editors cost around £100, but this one can be yours for the price of a disk.

As the name suggests, the CZ Editor is a complete patch editor for the Casio CZ range of synthesisers including the CZ-101, CZ1000, 2000 and 3000. Like all good patch editors, CZ Editor can display your CZ synth patches in graphical form, allowing you to alter parameters by pointing and clicking on gadgets and dragging out points on an ADSR (Attack, Delay, Sustain, Release) graph. If you've got a CZ synth, then you'd be a fool to miss out on this one.

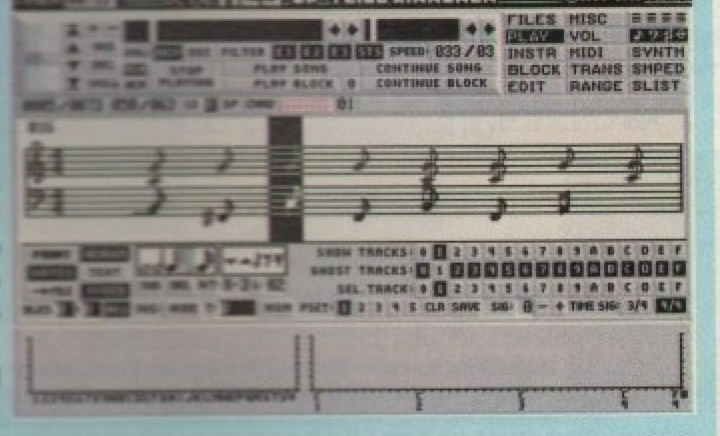
K1 EDITOR (Fish #332) – Casio owners aren't the only ones who are in for a treat within the PD libraries. If you're the proud owner of a Kawaii K1 (or K1m) synth, then Fish disk #332 should be at the top of your shopping list.

Once again, the K1 editor offers everything you'll probably ever need to allow you to create the kind of killer synth patches that would have Jean Michel Jarre green with envy. The package consists of two programs – one for multi voices and another for single voices. A separate voice filer program allows you to maintain a number of synth banks without ever having to look at your Kawaii's eye-straining LCD strip. Check it out.

Octamed Upgraded

It's only been available for a couple of months now, but already Teijo Kinnunen has come up with a major upgrade to his well respected OctaMed program. Like its earlier cousin, you can buy it from Amiga Nuts United for the terribly low price of just £10.

As you can see from the picture below on this page, the major new addition to OctaMed version 2 is score editing, which is sure to prove very popular with traditionalist musos. No longer do you have to type in all those unfriendly letters and numbers – you can now enter performance data using those funny little squiggles that people like Mozart and Bach seemed to get on with so well.



Joking aside, this feature alone should make composing tunes on the Amiga so much easier for those among you not familiar with Bar and MIDI stream editors.

I'll be bringing you a full review of OctaMed version 2 in the next issue of *Amiga Computing* (hopefully!), so stay tuned for that one (no pun intended). Meanwhile, give Ray at AmigaNuts a call to find out more.

Online access...

Eddie McKendrick runs through the various ways you can make an online impression with AC...

If you are a regular reader of *Amiga Computing* you will no doubt be aware that we can be contacted on a whole range of BBS and conferencing systems.

We are probably one of the most accessible magazines around, partly because we do value reader feedback and partly because we like to practise what we preach in the comms community.

We get an encouraging amount of feedback online from comms equipped readers. The bulk of response originates from the *Amiga Computing* Fidonet echo, which is available virtually country-wide at local call rate. We are also present on a number of public and private systems which are listed later in this article.

Beware of imitations

Recently, it has come to our attention that some "enterprising individuals" are passing themselves off as us, using the account name *Amiga Computing*. It has been said that imitation is the sincerest form of flattery but in this instance it is nothing more than cruel deception.

Because of the numerous hoax accounts that are in existence, it is with regret that *Amiga Computing* will be sticking to a core of only six key services, rather than calling smaller boards ad-hoc as we would prefer.

It's not all bad news though – the services we are on make us accessible to the entire country and most of Europe and the USA at only local call rate.

The rundown

From now on *Amiga Computing* can be contacted ONLY on the following online services:

01 For Amiga: (BBS) [8/N/1] Scrolling – 24 hours

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Only messages on the echo which originate from this board are really from the *Amiga Computing* team.



01 For Amiga – home board for Amiga Computing

Micronet: (subscription service)

Everyone can access Micronet at local call rate. It is a popular viewdata comms service featuring pages of information, software to download and a selection of multi-user games. *Amiga Computing* can be contacted on account number 999900263.

CiX: (subscription service)

CiX is one of the biggest private conferencing systems in the world. It features comprehensive messaging and a wide range of specialist conferences. You can get in touch with us by either mailing amigacomputing or writing a message in the **Ezra** conference.

The Direct Connection: (subscription service)

A newish rival for CiX featuring Usenet links and a fairly restricted, but interesting, range of conferences. You can pin us down on TDC by mailing account number: uad1132.

Telecom Gold: (subscription service)

The die-hard of business communications. *Amiga Computing* can be contacted on Gold account number: 74:MIK911. Be warned – we don't make a habit of logging onto Gold any more than we absolutely have to, so you might have to wait a while for a reply!

CompuServe: (subscription service)

The world's biggest communications service. Probably the easiest way for our USA readers to get in touch. *Amiga Computing* can be contacted on ID: 70007,4734.



CIX: one of the world's biggest private conferencing systems



Telecom Gold: the die-hard of business communications

Micronet monthly

Ant Purvis takes a stroll through the Micronet gallery

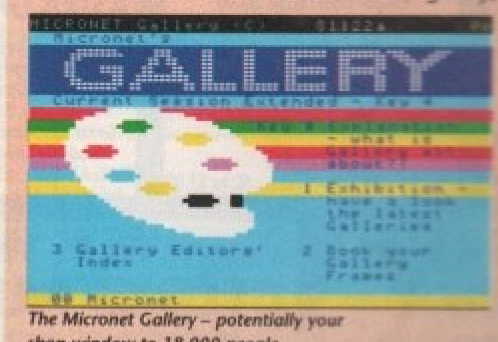
One of the most famous areas on Micronet is the 'Gallery'. Not a collection of fine art, as you may think, but a series of "exhibits" provided by ordinary Micronetters.

Anyone can have a space of their own in the gallery – naturally you have to be legal, decent and honest or you'll incur the wrath of Micronet and your exhibit will be deleted. Having lost 3 exhibits of my own this way, you can take my word for it!

The users who can control themselves can find the running of a gallery exhibit to be very rewarding – for little more than £2, you can own 26 pages of your own within the Gallery, and place on them what you want.

What do people put in their exhibits? Almost anything you can think of. Long-running exhibits in the gallery have been 'Joystick', a neat mixture of games news and tips for all machines.

Another favourite is the 'Astra Preview' gallery, giving those all-important details about Satellite TV on a month to month basis. Once rivalled by "Square Eyes", the gallery for BSB viewers, but now without competition, it's one of the most popular exhibits with 'netters.



The Micronet Gallery – potentially your shop window to 18,000 people

Declared interest

Moving into the more diverse, there are exhibits about gardening, kit cars, witchcraft, train spotting, and naturally a plethora of galleries centred around Micronet's play-by-electronic-mail RPG game "Starnet".

Sadly, some exhibitors lose interest very quickly, and there are numerous exhibits that haven't been updated for months – an even larger number remain empty. If nothing else, it makes the worthwhile exhibits easier to spot!

There's no doubt that the facility to put up your own material on Micronet for anyone else to see (and remember we're talking about 18,000 people here!) is cheap at the price.

Certainly, the Gallery is THE starting block for micronetters looking for fame and recognition. Many 'netters became known through their galleries, and indeed some exhibitors went on to working FOR Micronet, such was the quality of what they could do.

When it comes down to it, you'd be hard put to find an area on any online system quite so diverse as the Gallery!

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Sprite squashing made easy

Peter Hickman compiles a squishy treat for Compilers

Greetings fellow AMOS fiends, got your copy of the Compiler yet? Good isn't it? I know a way to make it even better! Unfortunately it is pretty complex so I won't try to explain how it works (I'm not entirely sure myself!), I'll just stick to giving you a brief outline of the program's function.

Ok, I have made some pretty wild claims up there – just how can I make the Compiler even better? Well, I have combined Francois Lionet's original BOB/SPRITE squasher with the compression utility built into the Compiler (written by my old mate Gary Symons – Hi Gary!) and I now have a program which allows you to squash your sprite banks down by 90% of their original size (although on average it works out to about 66% to 75%).

Now for the bad news – if any of you are reading this but don't own the AMOS Compiler (why not?) I am afraid you will not be able to type in the programs floating around on this page because they use commands which are part of the Compiler extension. Sorry about that, but next month I will start to teach you all how to write Pacman in AMOS so tune in then!

There are two programs here. The first actually squishes your sprites. It's really simple to use – all you do is type it in, run it, and click on the SPRITE/BOB file that you want to compress. Simple huh? The program will load the SPRITEs/BOBs into memory and tell you how many images make up the bank.

It will then ask you how many colours you want to allow for your BOBs – WARNING, if you enter fewer colours than your SPRITEs/BOBs actually use strange things will happen when you unsquish them! After the program has finished squishing everything it will pop up with a little message and three numbers. It is very important that you make a note of these numbers as you won't be able to unsquish the file without them!

```
' BOB Squisher (c) 1991 Europress Software
Screen Open 0,640,200,2,Hires
Flash Off
Curs Off
Palette $0,$FFF

For LOP=1 To 16
   Erase LOP
Next LOP

Abk","","Enter sprite bank to load")
If F$=""
   End
End If
Load F$
If Length(1)=0
   Edit
End If
'
MXSPR=Length(1)
Print "Number of bobs: ";MXSPR
STSPR=1
ENSPR=MXSPR
Repeat
   Input "Number of colours? ";NCOL
   NPLANE=1 : C=2
   While C<>NCOL and NPLANE<7
      Inc NPLANE : C=C*2
   Wend
Until NPLANE<7
'
BNUMB=15
Repeat
   BWORK=Rnd(8)+6
Until BWORK<>BNUMB
'
Screen Open 0,320,200,NCOL,0
Flash Off : Get Sprite Palette
Paper 0 : Pen 1 : Clw : BIGX=0 : BIGY=0
'
For N=1 To MXSPR
   If N>=STSPR and N<=ENSPR
      Cls 0,0,0 To 320,100
      A=Sprite Base(N)
      SX=Deek(A)*16 : SY=Deek(A+2)
      ICOL=Deek(A+4)
      If ICOL<>0
         Paste Bob 0,0,N
         Erase BWORK : Pack 0 To BWORK,0,0,SX,SY
         Add PSIZE,Length(BWORK)
         Add NSIZE,((SX*SY)/8)*NPLANE
         Print At(0,24);"Normal size";NSIZE;" /
Packed size";PSIZE;
         If SX>BIGX
            BIGX=SX
         End If
         If SY>BIGY
            BIGY=SY
         End If
      End If
   End If
Next
'
Reserve As Data BNUMB,PSIZE+MXSPR*10+4
APACK=Start(BNUMB)+MXSPR*10
Clw : Centre At(,24)+"...Final
size:"+Str$(PSIZE+MXSPR*10+4)+" ("+Str$(NSIZE)+"
)..."
OLDSIZE=PSIZE+MXSPR*10+4
'
For N=1 To MXSPR
   If N>=STSPR and N<=ENSPR
      Cls 0,0,0 To 320,100
      A=Sprite Base(N)
      SX=Deek(A)*16 : SY=Deek(A+2)
      ICOL=Deek(A+4)
      If ICOL<>0
         Paste Bob 0,0,N
         Erase BWORK : Pack 0 To BWORK,0,0,SX,SY
         AOFF=Start(BNUMB)+(N-1)*10
         Doke AOFF,(APACK-Start(BNUMB))/2
         Loke AOFF+2,Leek(A) : Loke AOFF+6,Leek(A+6)
         Copy
Start(BWORK),Start(BWORK)+Length(BWORK) To APACK
         Add APACK,Length(BWORK)
      End If
   End If
Next
'
Screen Open 0,640,200,2,Hires
Flash Off
Curs Off
Palette $0,$FFF
Print "Please wait, I am now squashing bank....."
View
L=Squash(Start(BNUMB),Length(BNUMB),-1,512,17)
Print "The bank is now fully squished!!!"
Print "It is actually now only";L;" bytes long!!"
Print "(The original was";NSIZE;" bytes)"
Print
Print "Please remember these numbers:-"
Print "1]";OLDSIZE
Print "2]";L
Print "3]";NCOL
Print
Print "Both of these numbers are needed when you
unsquish your sprites!!"
Print "Please write them down!!!!!!"
Print
Print "PRESS A KEY TO SAVE THE SQUASHED SPRITES"
Wait Key
F$=Fsel$("*.Squished","","Please enter saved bank
name...")
If F$<>""
   If Upper$(Right$(F$,9))<>".SQUISHED"
      F$=F$+".Squished"
   End If
   Bsave F$,Start(BNUMB) To Start(BNUMB)+L
End If
'
For LOP=1 To 16
   Erase LOP
Next LOP
```

Right, the next step is to type in the second program. Actually it is a single procedure. All you do to unsquish your sprite bank is type the name of the procedure followed by four parameters (if you are unsure about procedures and parameters check your AMOS manual) which are the name of the file proceeded by the four numbers which were printed onto the screen when you squished the SPRITE/BOB bank.

The unsquishing procedure will then go away and load up your squished bank, unpack them and then clear all of the cluttered memory! Oops, I almost forgot – there is an error checking procedure called FIN_REACHED which needs to be typed in along with the UNPCK_BOB[] procedure.

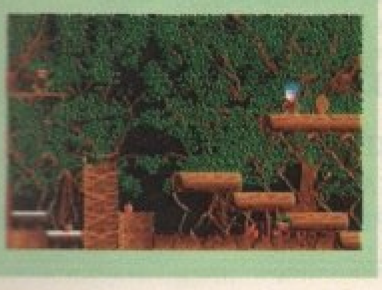
```
' BOB unsquisher (c) Copyright 1991 Europress
Software
Procedure UNPCK_BOB[FILE$,SIZE,SQUISH,N_COLS]
   Shared ERR
   PB_BANK=16
   Reserve As Data 16,SIZE
   Bload FILE$,Start(16)
   L=Unsquash(Start(16),SQUISH)
   Print L
   S=Screen
   Screen Open 7,320,200,N_COLS,0
   Screen Hide
   If S<>-1 Then Screen S
   N=0
   ERR=False
   On Error Proc FIN_REACHED
   Resume Label BYE
   Repeat
      A=Start(PB_BANK)+N*10
      If Deek(A)
         AB=Start(PB_BANK)+Deek(A)*2
         SX=Deek(A+2)*16 : SY=Deek(A+4)
         S=Screen : Screen 7
         Unpack AB,0,0
         Get Bob N+1,0,0 To SX,SY
         Screen S
         AA=Sprite Base(N+1) : Loke AA+6,Leek(A+6)
         Inc N
         BYE:
      End If
   Until ERR=True
   Screen Close 7
   Erase 16
End Proc
Procedure FIN_REACHED
   Shared ERR
   ERR=True
   Resume Label
End Proc
```

With these routines you should be able to squeeze a hell of a lot more sprites into your latest mega hit game, or maybe even reduce the number of disks you may need to produce the game!

Magic Forest II

Ubiquitous software author Aaron Fothergill has produced yet another hit game. This time it is a scrolling follow-up to his game Magic Forest (which we all got with our AMOS packages).

In Magic Forest II (originality was never Aaron's strong point) you must guide your cute little guy around 10 scrolling levels, splatting baddies with falling apples and collecting magic coins.



In addition there are 10 bonus levels which can only be reached by those players who have truly mastered the game. Take a look at the screen shot reproduced here and judge for yourself. Then give Sandra Sharkey a ring on 0942 495 2161 for more details.

Yes, believe it or not, Magic Forest II is licenseware and is available for a very reasonable £3.50 (summer holiday pocket money prices!!).

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Consolation

Margaret Stanger gets ready for some input

There are various ways of handling input and output characters with Intuition. To gain control of the situation I opened a console port to help me write the start of a noddy text editor.

I wanted to use RAWKEY events, to give me more information about the keypress – it's always nice to know when a function key or cursor key has been pressed.

Setting up a console device seemed to be the obvious solution. This device would take care of the input and output, and allow the the running program to wait for the result or do its own thing.

The device is opened using the OpenDevice() function, passing a pointer to the device name and one to the I/O structure. Unlike other devices, the console device must be used in connection with a window.

A screen and window must be opened first, and the pointer to this window structure is passed when the console device is opened. Normally there would be two I/O structures – one for reading, and one for writing.

In and out the windows

I also wanted more control of the output than the console device would give me. I found that proportional fonts were not handled very well, and I wanted the option of a fancy cursor, unusual scroll or even occasional graphics.

I still wanted the keycodes for any letters converted for me without the hassle of a lookup table. This would handle any translation from foreign keyboards, as long as the correct keymap was in place. I set up a dummy console port for reading only, to enable me to use the RawKeyConvert() command:

```
int InitConsole()
        error=0;
        readport=CreatePort("conread",0);
        if (readport==0) return(1);
        readrequest=CreateStdIO(readport);
        if (readrequest==0) return(1);
        error=OpenDevice
        ("console.device",-1,readrequest,0);
```

CODE	KEY	SEQUENCE	SHIFTED KEY	SEQUENCE
4C	UP ARROW	<CSI>A	UP ARROW	<CSI>T
4D	DOWN ARROW	<CSI>B	DOWN ARROW	<CSI>S
4E	RIGHT ARROW	<CSI>C	RIGHT ARROW	<CSI> A
4F	LEFT ARROW	<CSI>D	LEFT ARROW	<CSI> @
50	F1	<CSI>0~	F1	<CSI>10~
51	F2	<CSI>1~	F2	<CSI>11~
52	F3	<CSI>2~	F3	<CSI>12~
53	F4	<CSI>3~	F4	<CSI>13~
54	F5	<CSI>4~	F5	<CSI>14~
55	F6	<CSI>5~	F6	<CSI>15~
56	F7	<CSI>6~	F7	<CSI>16~
57	F8	<CSI>7~	F8	<CSI>17~
58	F9	<CSI>8~	F9	<CSI>18~
59	F10	<CSI>9~	F10	<CSI>19~

```
        ConsoleDevice=readrequest->io_Device;
        if (error!=0) return(error);
 return(0); }
```

The message handler was fairly simple, with only MOUSEBUTTON and RAWKEY events. I did not reply to the message straight away after a RAWKEY event, as I would need the information later:

Instant conversion

The key handler uses the RawKeyConvert() command to read the key code, and put the equivalent Ascii code or escape sequence into a chosen buffer. If a key code is less than 64, the Ascii equivalent is returned.

Some of the other keys generate escape sequences of up to four characters, the table below shows some of them.

The function takes data from an InputEvent, as described in the include header files. I initialised one of these structures in my header file, and set its Class to RAWKEY:

```
    static struct InputEvent ievent={
    NULL,    /*next event*/
    IECLASS_RAWKEY, /*class*/
    0,
    0,
    0
     };
```

Values from the IntuiMessage are put into the structure before the routine is called. Other inputs include a pointer to a buffer to hold the data, and the size of the buffer – ten characters is overkill. The length of the output string is returned:

```
int KeyConvert(msg,buf)
struct IntuiMessage *msg;
char *buf;
{
if (msg->Class!=RAWKEY) return(0);
ievent.ie_Code=msg->Code;
ievent.ie_Qualifier=msg->Qualifier;
ievent.ie_position.ie_addr=* (APTR *)msg->IAddress;
al =
return(RawKeyConvert(&ievent,buf,10,NULL));
 }
```

Creative

The key handler could find the length of the converted sequence and handle it accordingly. Letters could be displayed, editing keys handled, and function keys could generate a certain amount of creativity.

This simple key handler is designed to display the text in the default font, and put the keyboard input into an array. Simple editing is allowed but some keys have not been handled. The array only has 20 lines of 40 characters, all onscreen at once, so there is no scrolling.

This is only the beginnings of a text editor. The key handler is as follows:

```
   int HandleRawKey()
     {
       int len,place;    len=
 KeyConvert(message,&buff[0],10);    al =
```

```
ReplyMsg((struct Message *) message);
    if (len==1)  /*one character only
      {   /*escape key quits program
          if (buff[0]==0x1b)
                 { quit_flag = TRUE;
               return(0);}
          if (buff[0]==0x7f)
             {  /*delete*/
               x=x-8;
               aligntext();
               buff[0]=' ';}
          if (buff[0]==0x09)
               {  /*tab*/
                 x = x+8;
                 aligntext();
                 return(0);}
          if (buff[0]==0x08)
             { /*backspace*/
                 x = x-8;
                 aligntext();
                 return(0); }
          if (buff[0]==0x0d)
              { /*return*/
                 x= 0;
                 y=y+10;
                 aligntext();
                 return(0);}
          Move(rp,x,y);
             /*move to correct position*/
          Text(rp,buff,1);
                 /*display character*/
          place = (((y-20)/10)*20);
           /*put character in array*/
          place = place + (x/8);
          *(array+place) = buff[0];
          x = x+8;
          /*calculate next position*/
          aligntext();
          return(0);
      }
      /*escape sequences*/
    if ((buff[1]==0x41)||(buff[1]==0x54))
          {  /*cursor up*/
             y = y-10;
             aligntext();
             return(0); }
    if ((buff[1]==0x42)||(buff[1]==0x53))
          {  /*cursor down*/
             y = y+10;
             aligntext();
             return(0); }
    if ((buff[1]==0x43)||(buff[1]==0x5a)
 ||((buff[1]==0x20)&&(buff[2]==0x40)))
          { /*cursor across*/
             x=x+8;
             aligntext();
             return(0); }
    if ((buff[1]==0x44)||((buff[1]==0x20)
      &&(buff[2]==0x41)))
          { /*cursor back*/
             x=x-8;
             aligntext();
             return(0); }
            /*help key*/
    if((buff[1]==0x3f)&&(buff[2]==0x7e))
      printf("help!\n");
            /*function keys*/
    if (fnkey(&buff[0],48,126,49,48,126))
          SetAPen(rp,1);
    if (fnkey(&buff[0],49,126,49,49,126))
          SetAPen(rp,2);      etc.
    aligntext();
    return(0); }
```

The program

The console window program has a source file, console.c and a header file console.h, on the support disk. The object program opens a screen and window and handles keyboard input until Escape or a mouse button is pressed. Letters are displayed, the colour changes with the function keys, and simple editing is allowed.

COMING SOON... Proportional and string gadgets.

The printed word

Barnaby Page concentrates on getting publications from your screen to the printing press...

There is a world beyond the screen and the layout grid and the toolbox and the crashes, you know, and for the DTP user one of the most important people in this wider world is the printer.

We're talking here not about the kind of printer with pins or cartridges, but the kind with eyes, ears, and – most importantly – a wallet.

Consider three factors before having a DTP publication printed. (I refuse to say 'printed up': it's as bad as 'written up' and 'booted up' when just the verb would do.)

First, does it need professional printing? Second, can you afford it? And third, if the answer to the previous two questions is 'yes', what can you do to make the printer's life easier?

Professional printing is not, as some printers would naturally prefer you to believe, a sine qua non of a professional-looking document. If you're only running text, and it's not at too small a size, photocopies of 300dpi laser output will convince just about everyone except the typography bores, and nothing ever pleases them anyway. Make sure the laser printer and photocopier have fresh toner, keep your head straight about what should be on the back of what, and away you go.

It's also worth bearing in mind here that the best printing cannot save a poor original. If you're outputting 3D illustrations on a nine-pin dot-matrix printer, which I can't believe any reader of *Amiga Computing* would be so crazy as to do, the results are going to be disastrous anyway and there's no point in spending money on them.

That raises question two. The good news here is that printing is not necessarily as expensive as commonly believed; and if you're expecting to make money from the publication by sales, subscriptions or advertising, the investment in a good-looking result can repay itself.



Plenty of printers to choose from

You just have to find the right printer (on a 96-page A5 book with a print run in the 1,000-2,000 area, I've recently been quoted a pleasing 75p per book – but I'm not saying who by!).

First of all, don't have any truck with the mail-order people who do postcards, business cards and the like. They're mostly competent, but they're not particularly cheap, you have no control over what happens on the other side of the country, and for large publications the postage costs stack up.

Stay local

Try to avoid the high-street quick-print chains . They're fine for stationery, but are not used to out-of-the-ordinary jobs.

Far better is to try a small local printer, the kind with one press, three or four staff and a pleasantly dishevelled atmosphere. As in any business, there are some cowboys, but there are also plenty of these printers who take a real interest and pride in their work. More cynically, they're also desperate for work in the recession, and will often take on a job at cost just to have their staff and presses doing something.

It is quite acceptable to ask several printers for a quote on the same job, and to haggle afterwards. However, attitude should count for as much as the quoted cost: a pleasant printer will quite likely throw in some small extra work for free, such as stripping in your last-minute text corrections, whereas he who quotes low could add on a hefty fee for this.

And for the same reason, don't try to bargain the printer down to the last penny, or he (sadly, in printing even now it's usually a he) will be unlikely to show any generosity in return.

Be as precise as possible when asking for a quote. You'll need to state the page size; the number of pages in the publication; how many copies you want printed; and whether you use colour, and if so how many colours and on how many pages.

Then there's the kind of paper you want; whether you want a separately-printed cover, or whether the cover will be the same as the rest (a 'self-cover' publication); how you want it stapled or bound; and what you will give the printer (an Amiga disk – inadvisable! – laserprint, bromide paper or film, with or without pictures).

Be decisive

If in doubt, ask the printer what he needs to know. Don't get fobbed off with jargon – you have a right to be told what 'right-reading positives in imposed order' are, and how much they affect the quote.

That's sort of answered the third question, as well. To help the printer, always give him as much information as possible, and expect him to behave the same way toward you. Remember that his job is to put ink on paper, and he may not understand what you're trying to achieve creatively, so it's best that he not be left to make any decisions other than the purely technical ones.

Finally, a caution. You will encounter some printers who distrust DTP (whether it's a distrust born of envy we'll leave the psychiatrists to decide).

Don't go near them – they might be wonderful craftsmen, but you can bet that if anything goes wrong with the job it's your DTP system that will be blamed. And that's a real cheek when we all know that the Amiga is perfect...isn't it?

Barnaby Page is editor of PrePress magazine and a DTP consultant. He can be reached on CIX as 'prepress'.

New version of AmigaTeX

The latest release of the AmigaTeX typesetting language is now available in the UK and Eire.

Version 3.1a of the five-year-old system adds full PostScript support – including both Type 1 and Type 3 fonts – and compatibility with AmigaDOS 2.0, say distributors Industrial Might and Logic (IML) of Brighton.

The new AmigaTeX is a fully-fledged implementation of the TeX 3.1 standard, particularly suitable for scientific and technical Amiga users with its equation and table features.

It costs £140, which IML claims is cheaper than ordering direct from the US. Contact Paul Ockenden at IML on (0273) 621393, or write – don't phone – to IML, 58 Cobden Road, Brighton BN2 2TJ for a free working demo.



Nice title screen – almost starts to build your hopes up, doesn't it?



Uh oh, SEUCK alert, slow game, very little action. Still, it could be worse, I think

PUBLIC SECTOR

If it's cheap – or preferably free – Les Ellis is your man. He'll take you through what's hot and what's not on the Amiga PD scene

To start off this month let's take a look at some games.

Scum Haters: from Amiganuts has been written using the Shoot-'Em-Up Construction Kit. Just saying that should let you know what's in store for you.

The basic scenario is that the streets of your city are being overrun with the kind of scum that would make even the Kray twins think twice about entering a life of crime, they are that 'ard.

Guess who has taken it upon himself to clear the streets? Yep, you guessed it – you. Just like the mug you are, you have volunteered for this dirt clearing mission.

You drive your car up a vertically scrolling road blasting other cars who are busy firing back at you. There are some not so innocent pedestrians walking the streets lobbing bottles at you. Just run these over to get rid of them – simple.

This may all sound a lot of fun but Scum Haters suffers from the same problems evident in many games written with the SEUCK – a distinct lack of speed. Still, it's fun for a little while.

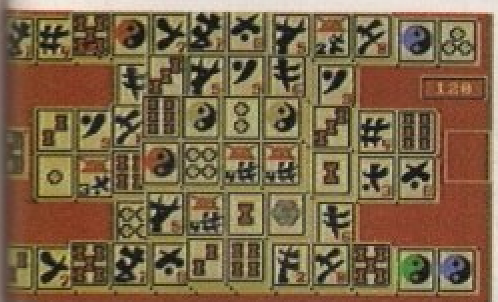
China Challenge – Scope 109: This game by now should need absolutely no introduction. No chance of extreme amounts of violence and blasting here, just a nice quiet strategy think-'em-up to keep you busy for a while.

Shanghai surprise

You have to pair up stones with certain symbols and numbers on them to remove them from the pile. The object is to remove them all before you run out of possible moves to make.

The game is very relaxing and the graphics are fairly detailed. This is a decent Shanghai game and it should grace your PD collection soon.

Black Jack Tutor & Solitaire – Scope 131: For anyone who would love to play Black Jack in the evenings, or those who have a Black Jack set and haven't got a clue how to play, Scope 131 is the disk for you. It has a very good tutor that will take you from a complete novice to an accomplished Black Jack player in a short while.



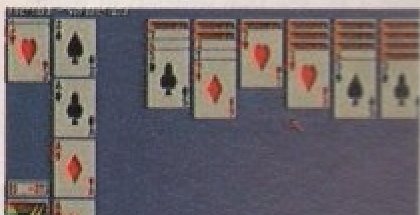
Shanghai at its best. China Challenge from Scope

The solitaire game is an excellent way to while away those long winter evenings. The graphics ain't exactly Cinemaware standard but who wants that in a card game? Good fun is ensured with this package.

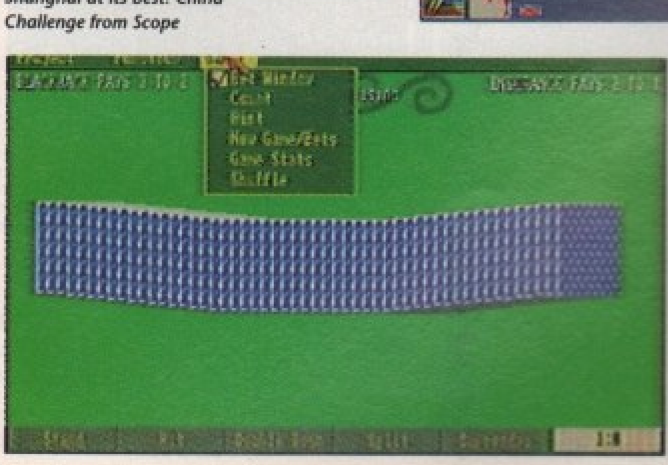
Galadria: This is a shoot-'em-up extravaganza from Public Dominator, or rather it would be if it wasn't written using the SEUCK. Although saying that, the sounds used in this really are something else.

Turn the volume right up, close your eyes and imagine you are in an arcade somewhere. I kid you not, they really are that good.

The basics are, well, basic. You fly a ship up a vertically scrolling screen blowing the hell out of anything that ➤



Solitaire – while away those long boring evenings with a fine card game



Want to learn how to play Black Jack? Take a butchers at this

NBS DISK G174

This is a five-game compilation featuring some of the best games on Amiga PD. The first is Tanx, the classic two player tank battle where you and your opponent are on opposite sides of a range of hills and have to try to blow each other up.

Then there's Rollerpede, as featured on the CoverDisk a couple of months ago, and Avatris, a – wait for it – three player Tetris game.

One of the best on the compilation is Amigoids. No, it isn't some kind of new haemorrhoid problem, it is in fact a replica of the cult Asteroids game.

This one features a unique double ship feature that really does distinguish from the rest. Cave Runner is the Boulderdash clone, not quite the same graphically but a lot of fun nevertheless.



Five decent games for the price of a disk – what value



Another SEUCK game, not exactly Psygnosis graphics but the sound effects are brilliant

If you need to do it on your Amiga there is probably something somewhere on the PD market

moves. And if it doesn't move, well blow the the hell out of it anyway just to make sure.

Bug Bash: This is one of the latest offerings from Amiganuts. The name is similar to a budget game that was released a while back but I haven't seen it so I don't know whether it is the same or not.



Cute graphics, neat gameplay. A professional looking game all round is Bug Bash

Great graphics

The graphics are very bright and colourful – I get the feeling that kids will love this one. You control a bug as he flies through fields blasting other bugs with his bug blasting spray. Like I said, good graphics and a very professional looking piece of software.

Cross Words: If blasting aliens isn't exactly your idea of fun then a gentle crossword may be more your cup of tea. If this is the case then you could do a lot worse than try out the two-disk offering from those crazy Amiganuts.

These disks contain some devilishly tricky crosswords that are extremely easy to use, but not so easy to complete. Amiganuts also say that they will be offering more disks each month to keep the collection fresh.

The puzzles are very well presented onscreen and are certainly a thought provoking way of wasting a few hours.

Utilities

Now for some nifty little utilities that may be just what you are looking for. Remember the general rule, no matter how small or trivial something may seem, if you need to do it on your Amiga there is probably something somewhere on the public domain market that will do it for you.

MessyDos

First up is the long awaited working version of MessyDos. Sounds silly? Well, basically it's exactly identical to SID – in fact it is SID. The main difference in this version is that MessyDos will read PC disks.

So if you handle a lot of PC disks in your Amiga work and you don't like using CrossDos or any utilities like that then MessyDos is for you. One very useful feature I found is that by clicking on the Shrink command you can have SID installed on your workbench screen so that just by clicking on its bar at the top of the screen you can call it up anytime – ah, the true wonders of multi tasking.

I say that MessyDos is long awaited, but this is not strictly true – after all it has been around in one form or another for quite a while, but these versions had one minor problem, they didn't exactly work very well.

You can rest assured that this version works perfectly. It's an essential addition to anybody's hard drive.

Zap that virus

Virus killers are widespread nowadays. It seems that it is not safe to use an Amiga without having some form of virus killer handy just in case.

Although there are a few golden rules to follow to avoid infection, everyone will have to face up to one sooner or later. The latest from Amiganuts is MVK 2.2. A match for almost any virus that may try to invade your disks, it is very easy to use (which is good news for any novice users) and very effective.



The master virus killer in action – zap that virus once and for all

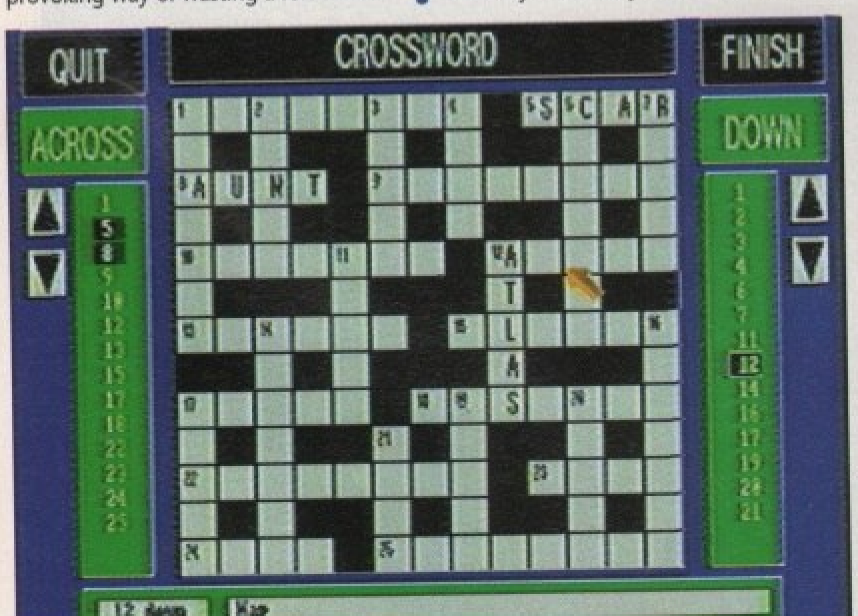
For anyone using a hard drive, especially the A590, VirusX 4.1 is an absolute must. VirusX 4 kept crashing the system whenever you tried to run it as a background task on the A590 but version 4.1 has that particular quirk fixed.

Scope

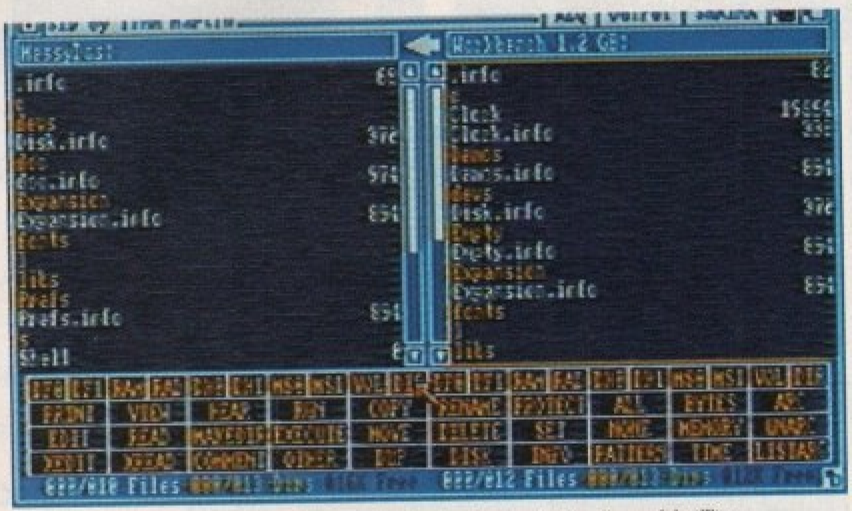
Softville have just started a collection of disks that they hope will eventually rival the Fred Fishs and TBAGs of this world.

Called simply Scope, each month they have up to date utilities and some cute games to mess around with. Let's take a look through a couple of these new disks to see what they are all about.

Scope 121 for example has a stock market management program that will handle all sorts of stocks and shares and perform analysis on them. It has loads of features and may well be of use to you if you have taken part in any of the recent privatisation offers, or maybe



Nearly done this crossword – well actually that's a lie, I'm stuck on 17 down



At last, a version of MessyDos that works properly. Now that's what I call a useful utility



Just what you've always wanted, an Atari ST emulator on your Amiga. Great?!?

you are in a company share scheme or something like that.

On Scope 131 there is a quick little loan calculator – just bash in the figures and it can tell you (or print out) monthly repayments or how many months it will take you to pay off a loan. Scope 131 also has the obligatory (or so it seems) disk info program that will tell you just what you have mounted and how much room is available on each.

It's just your run of the mill info routine but if you don't already have one they do come in useful. There are some other utilities on Scope 131 but there just isn't room to go into them all.

Scope 149 has a far more interesting utility on it. Beat this – an Atari ST emulator. Quite why any self respecting Amiga owner would want one of these is beyond me. Obviously you can't expect something like this to run any ST games although it does have a brave attempt.

I did manage to get an ST spreadsheet program to run on it so it will run some things. It is also rumoured to run the Atari PC software emulator, although I didn't have a copy of this lying around so I couldn't test it out.

Even if you can't get anything to run on it, it's still fun getting the ST boot-up screen on your Amiga to amaze and probably confuse your friends who may have Amigas.

Scope 149 also has a useful font manager program that will put up a requester showing what fonts are available in your system with an example of each. To finish off it also has some new fonts and pagestream printer drivers for you. Well I did say that however irrelevant something may seem to you, someone may want it.

We seem to keep coming back to the Scope collection but there are a couple of good reasons for this – **a.** is that Softville sent me absolutely stacks of Scope disks (it took an entire Saturday morning to go through them all) and **b.** is that they are all packed with loads of goodies. Get in touch with Softville for the full list.

On disk 104 there are loads of utilities. Quickhelp lets you make your own helpfiles for your software. These files use the help key for access.

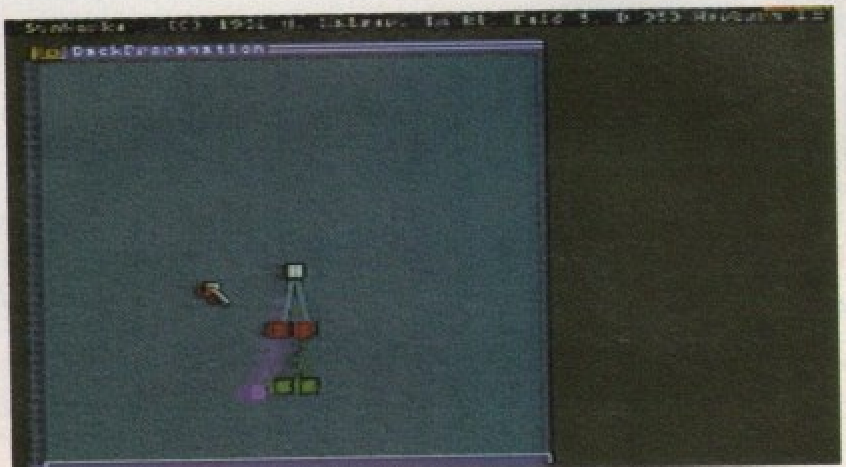
FixIcons is a utility that will allow you to change the type of any icon with ease. MuchMore is the file reader that is very commonly available now.

ProDialer is an Amiga phonebook that allows you to store loads of numbers and relevant details. When hooked up to a modem it will also dial the numbers for you. It is compatible with tone dialling so if your fingers are getting tired with looking up and dialling loads of numbers let your mouse do the walking.

PCopy is a disk copier that can recover files from bad disks, and indeed may be able to save the disks themselves. There are a couple of sounds on it as well – a laugh and a groan. I think these were just put on to fill up the disk as they are of no use whatsoever.

The Address book utility allows you to store names, addresses and any relevant information on people. It will also print out labels, so you can jazz up those normally boring envelopes when you write to your friends. There is also some music from European demos, three tunes in all. Actually they sound quite good.

AnyMonth is a handy utility that will



Anybody want to learn about neural networks? Well, Fred Fish can help you out there

Panorama 67A

This is the first time I have come across this disk and it seems to be one of the better available, being crammed with good utilities that anyone can use and some good games.

This disk features a game that very nearly got released at full price. Unfortunately Blockout has been appeared before it could be finished so it has been released onto the public domain instead.

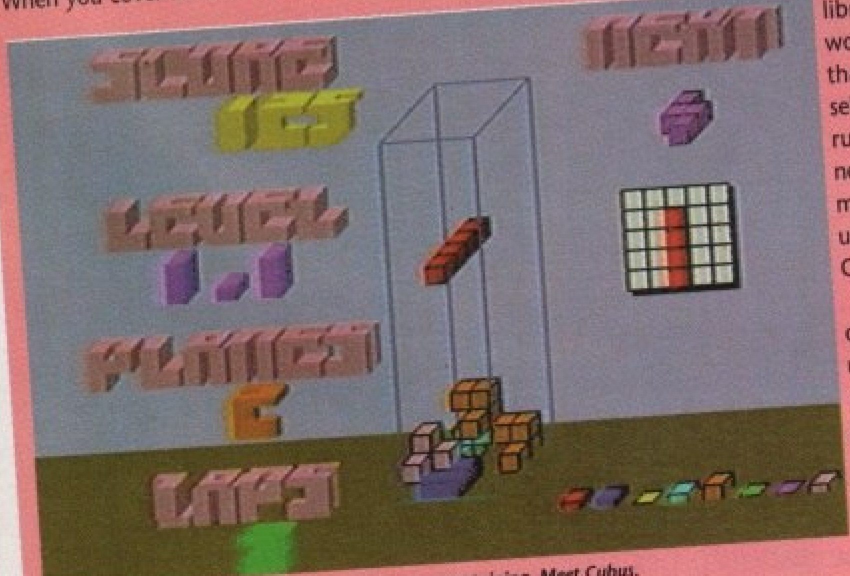
Cubus is a 3D Tetris style game. It features a standing column down which various 3D shapes fall. You have to position them to utilise the space available. When you cover an entire level the blocks vanish giving you more room. The graphics are nothing special but do the job adequately.

The controls can be a real pain at first. Using the numeric keys to rotate the shapes is a pain in the ass to put it lightly. Still, a fair amount of satisfaction is had from getting the hang of them and eventually clearing the shapes. A good game but Blockout is a lot better.

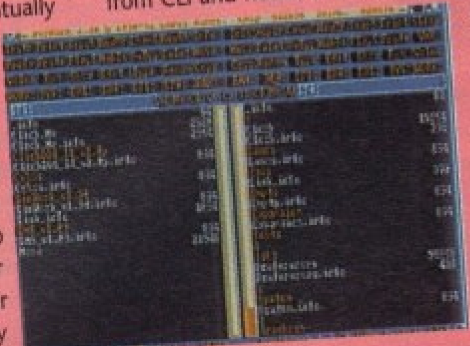
On the Utilities side of things disk 67A contains ClickDOS II v2.0. ClickDOS is an excellent directory utility that allows the management of files on your disks without having to use the CLI. It requires the arp library to be in your workbench but other than that it is pretty self-explanatory when running. I should think newcomers to the Amiga may be interested in using this as opposed to CLI.

DirWork is a highly configurable directory utility. It has many features that other directory utilities may not have. For a start it has a built in virus checker, key macros, a screen blanker and all the file manipulation tools you will need. This version is v1.30 and is the latest version available.

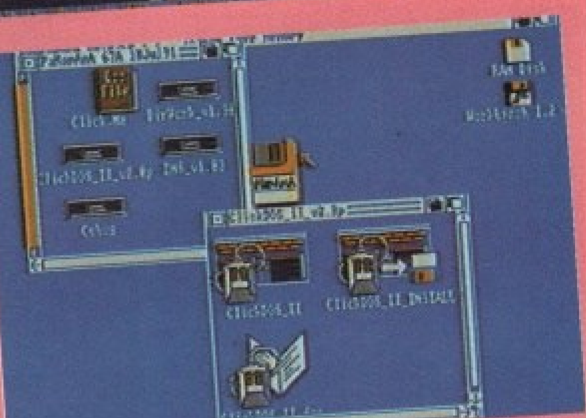
The final utility on this disk is DMS v1.03. DMS stands for Disk Masher and it is a utility that allows you to to compress and archive floppy disks. It runs from CLI and needs 512K so if you don't have a meg you will need to disconnect that extra disk drive.



3D Tetris, tricky to use but once mastered very entertaining. Meet Cubus.



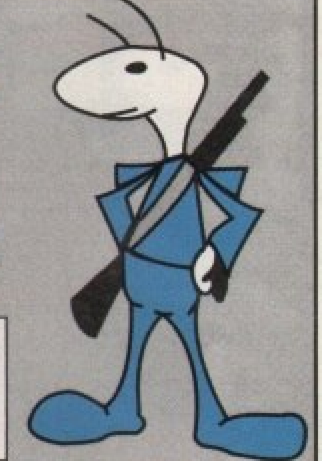
DirWork is the latest in a seemingly never ending line of disk utilities. You really are spoilt for choice.



ClickDos 2 is another file/disk utility, one of many but one of the best

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put a calendar for any month of any year on your screen. This is obviously going to be useful for any advance planning you may want to do.

Finally, it finishes with Monitor1.24, a machine language monitor for debugging programs. This one's for extremely techy buffs only.

Fred Fish

The latest Fred Fish offering is a little laid back for once – no hacks, no thrills, just good, honest useless utilities. Firstly it has a program to copy files from the PC side of an Amiga fitted with a PC-AT bridgeboard to the Amiga side using wildcards.

Now is that useful or what? I guess it might be if you had an Amiga fitted with a PC-AT bridgeboard.

Then it has a program that allows the design of, and training on, neural networks (whatever the hell they are). It's supposed to be the latest thing in computers but I don't know anything else about it. You'll have to read the documentation.

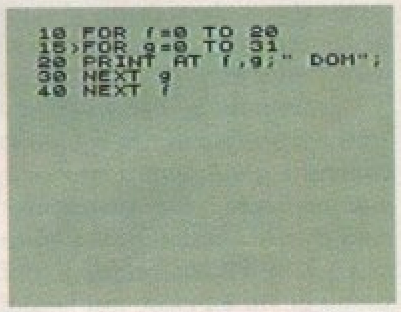
To end up there is VMK version 1, a new breed of virus killer. Personally I don't think you can beat WHK2.2 or VirusX 4.1. But then I always was a traditionalist.

UUTIL 13: This latest offering from Softville is packed with loads of text utilities. Basically this is the disk to get if you want to do just about anything with your text. If I seem a bit brief in the description of the other stuff is because the star feature on this disk in my opinion is the ZX emulator – yep, that's right, turn your half meg Amiga into a mighty Speccy.

I don't know if there is a way to get Spectrum software to run on this but I wouldn't bet on it. It does however allow Basic programs to be written on it.

Once you work out all the symbol shift keys and stuff like that you can have a lot of fun. A couple of problems with it is that it runs about eight times slower than the Spectrum (is that possible?), also the sound commands didn't seem to work and the use of colour had some adverse effects.

Still it does take you back to the old days of computing. I just can't figure out why anyone would want to do this on the Amiga, and what on Earth made someone actually write the damned program. It takes all sorts I suppose.



Try out this little program. I'm assured by our resident ZX programmer that it will display extremely hi-res, Psygnosis-style graphics. I think he may have been lying

The Insider's Club 17 Bit Software Disk No 1166

This is a very in-depth, but fun, look at the cut-throat world of the stock market. You control a company whose business is buying other people's businesses.

The game is based on the Aussie stock market rather than our own. Up to two players can play at the same time and they must compete to anticipate effects of certain events on the share prices of other companies.

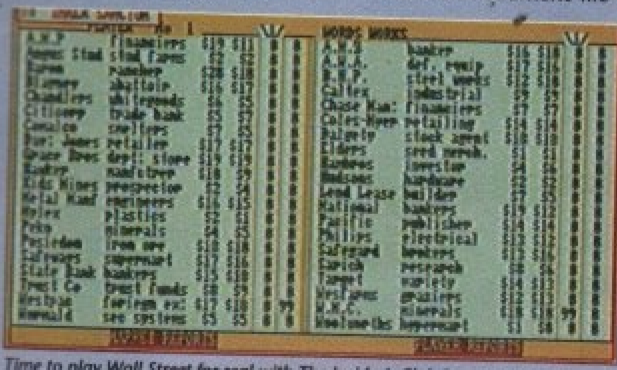
Then you can blow your money buying them up. There are loads of options that make the game a lot of fun.

You could go for a bit of insider dealing – it's very dodgy and costs a lot but the results can be very worthwhile. Try buying all the remaining equity in a company that the other player was saving up to buy. Talk about the ultimate in frustration. If you prefer it, the computer can control the opposition.

This game may seem strange at first but when you have read the document file it all makes sense. It is an in-depth game so it is just as well there is a save game feature in there.

There's plenty of room to save games out on the same disk that it comes on, although I would suggest copying the game off onto a spare disk.

I'd recommend this game to anyone who feels they could handle a hard night's share dealing after a long day at the office. A corker of a game.



Time to play Wall Street for real with The Insider's Club from 17 Bit Software

Demos



This month's star demo: Virtual Worlds featuring the best 3D rotations and then some

This month I have been absolutely snowed under by demos so let's not waste any more time and get straight down to them.

Virtual Worlds



First up on the demo front this month is Virtual Worlds. It starts off with the very nice, but very boring, rotating 3D shapes. Come on guys, how about something different? We've seen it all before.

Mind you, after the boring bit there is a nice routine in 3D with a rotating plane flying around leaving the credits trailing behind it. Then it's on to a routine with one of the biggest 3D flying objects yet seen in any demo, simple yet devastatingly effective.

Following this there's a quick blast from the Virtual Worlds band. Again in 3D, the Poi Poi (I think that is what they are called) float around before settling down to play.

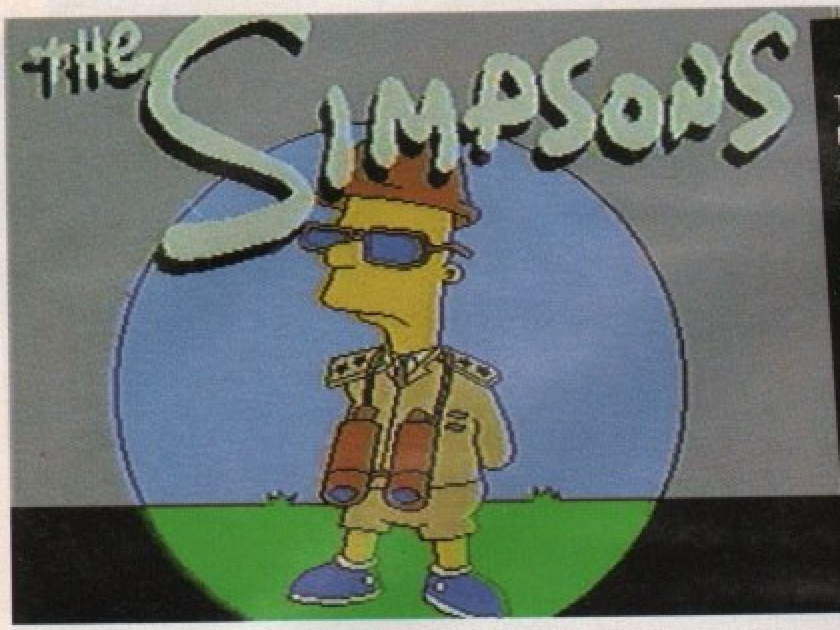
Then comes the second part of the demo, and the part that sets it aside from the rest. The year is 2019 and you are a special agent who has just returned from a failed mission on Mars. Your superiors are not very pleased with you and are sending you away on a simple mission that even you couldn`t get wrong.

This is not a game, but a 3D visual experience. Look in awe as your craft leaves its hangar on its home planet and lifts off into the sky. It moves through space with a fleet of support craft before coming to the target planet where it navigates an asteroid belt.

It then enters the planet's atmosphere and drops an exploration shuttle ➤



The story at the end of the demo is wonderful (honestly) and the Tobias Richter tribute is nice

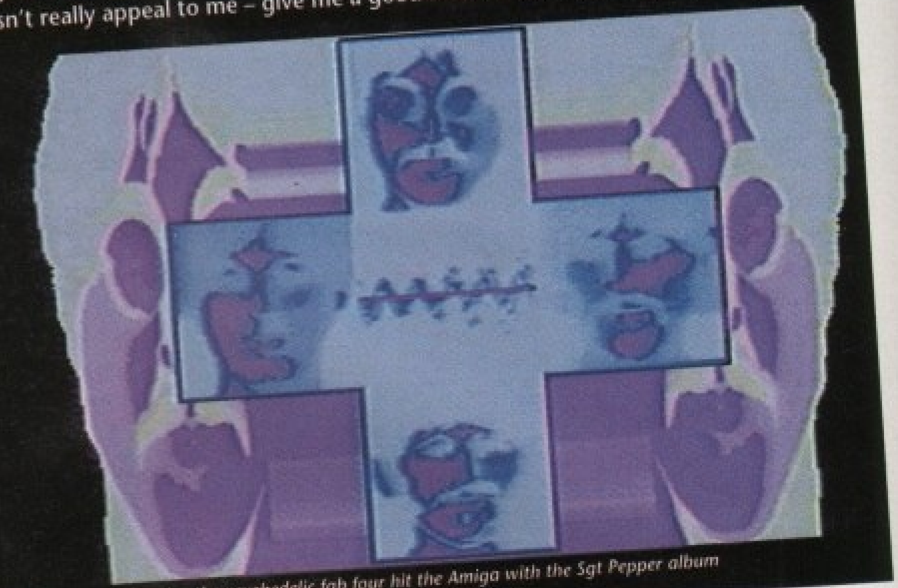


The Beatles

This has to be one of the strangest demos I have ever come across. It is the most headbustingly psychedelic demo ever. Based around the Beatles' classic Sgt Pepper's Lonely Hearts Club Band album, it has some of the music sampled onto it along with some images of the fab four.

All the images are colour cycled, easy to do but the effect gives a very 60's feel to it all. Time to get all the flower power clothes out again as all the old hippies are bound to get a bit nostalgic with this one. Unfortunately the copy I had seemed to enjoy crashing more than running but I am sure that this is just on my copy.

I would thoroughly recommend this disk to anyone who likes the Beatles, especially the weird stuff. Being too young to have been around in the sixties this doesn't really appeal to me – give me a good Iron Maiden demo any day.



The Beatles are back – the psychedelic fab four hit the Amiga with the Sgt Pepper album

into the water. The shuttle moves around looking at the various species that are living there. All this is shown in glorious 3D and, like the Phenomena demo before it, shows exactly what the Amiga can do – a visual treat well worth looking at.

The Simpsons by Decay: Alright, I know this isn't exactly new but it is so cool that it is well worth a mention in case you missed it first time round. It starts off with a pretty amazing advert for Coke. Then it launches into a great sample of The Bartman, that famous song that topped the charts not so long ago.

Great shape

There are some brilliant scenes from the Simpsons series. If you are even remotely sane then you simply must go for this demo.

Ice Demo by Silents: After some neat credit screens there are the obligatory rotating 3D shapes, but this time, to be a little different, they are rotating over some wonderful static fantasy screens – great stuff.

Then the Silents take on Psygnosis at their own game, parallax scrolling a la Shadow of the Beast with the Ice shapes floating in the background along to some wonderfully atmospheric music.

More weird 3D rotating stuff follows – not exactly original but it is quite good. The demo ends up with some absolutely huge shapes rotating all over the place, with the mouse controlling the speed. The shapes include some familiar ones, like a Nintendo Game Boy for example.

System Violation: Introduced by some nice soothing music and rotating titles comes the new demo from anarchy. The action (if you can call it that) kicks off with some lovely routines with swirling dots and balls, all very nice to look at but it all boils down to, what's the point?

This is one of those demos that is spoiled by one thing – they seem to be obsessed with mentioning everybody on the entire planet somewhere on the disk, all very nice but very boring.

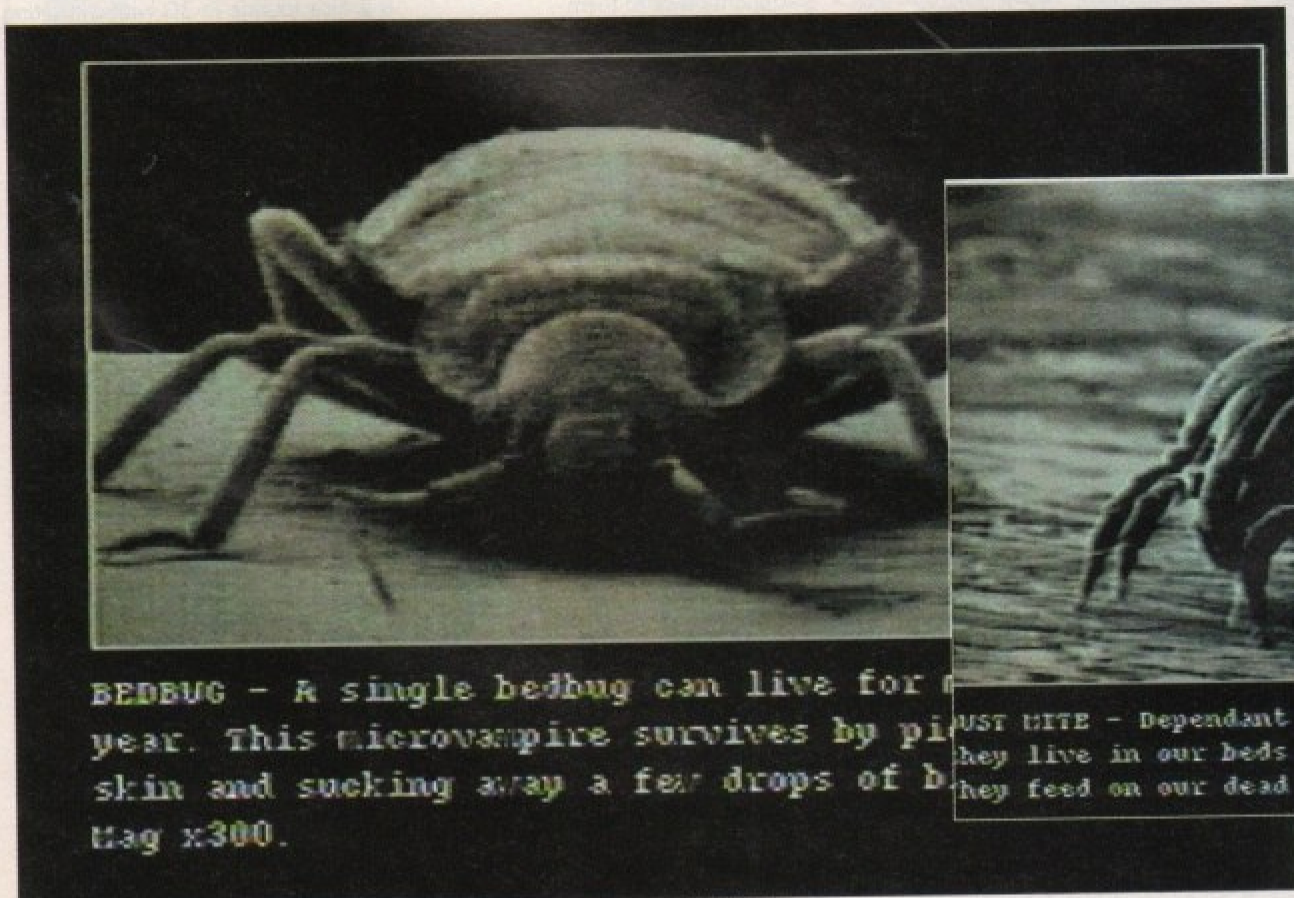
One of the stars of Lemmings narrowly misses being crushed by an avalanche of 3D spheres somewhere on the disk among all the credits and acknowledgments.

Invisible World demo: This wins the award for the daftest slideshow ever. You must have seen those pictures where they magnify something that is normally invisible to the naked eye about 300 times to make it look like some terrifying monster-type thingy.

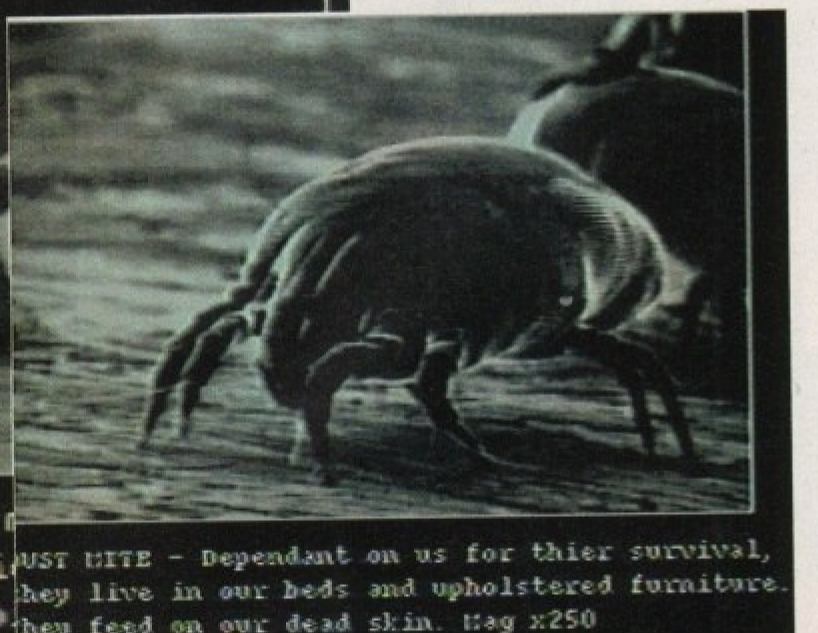
Well now there is a disk crammed full of the damned things. As if that wasn't enough there is also a section that has pictures that have been freeze framed, like a bullet going through a banana and things like that.

In fact bullets passing through objects feature quite heavily in this part of the demo. Go for this – it looks strange but fun.

After seeing a bed bug at 300 times its normal size you may think twice about ever going to bed again.



Ugh, there ain't nothing like that in my bed (I hope) – mind you it has been magnified 300 times



Definitely the strangest slideshow around – give it a go

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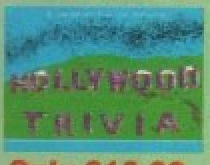
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ALP6 Pukado avoid the baddies and skull as you try to empty the screen of tiles. £3.50.
ALP7 4 Way Lynx a 22 level puzzle game where the object is to connect a specified number of tiles to the main centre tile. Requires 1MB RAM. £3.50.
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FF194 Moria the single player dungeon adventure game. Requires 1MB RAM. £3.00.
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PD78/80/81 Star Trek by Twisted Images. Full graphics and sounds from the original Star Trek. Requires 1MB RAM and External disk drive. £9.00.
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CIA3 - Subjects covered: Fruit, herbs, meat, arrows, special occassions, vegetables, kitchen utensils, cups and glasses, art deco and breakfasts. £12.50.

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EDUCATION

AMP6 - Under 8's pack. The following 5 disks with an 'ALP' code are a DEJA VU Licenseware Product and are available as a pack for only £17.50 or individually for £3.50 each.

ALP1 - Colouring Book a good colouring book for young children. £3.50.

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PSL8 - FUN TIME 1 a great educational offering aimed at children age 3 to 6. This disk is crammed with delightful tuition on many subjects: shapes, keyboard, clock and picture. £3.00.

PSL9 - FUN TIME 2 a great educational offering aimed at children age 3 to 6. This disk is crammed with delightful tuition on many subjects: money, seasons and mouse. £3.00.

PROGRAMS

PD499 - AmiBase V3.76 the excellent database. £3.00.

FF365 - Badger a reminder program that displays any important events that are 'due', but not bother you if there is nothing to report. £3.00.

FF372 - Magnetic Pages V1.0 allows you to create a disk-based magazine. You can combine text and graphics on a single page, branch to different sections by clicking on icons and play music. £3.00.

FF385 - MortCalc V2.5 an accurate loan calculator. £3.00.

FF387 - NTSC-PAL for owners of Amigas with the new ECS 1Mb Agnus installed the ability to boot into either a NTSC or PAL environment. £3.00.

FF402 - Budget V1.302 a program to help with managing personal finances. £3.00.

FF425 - A-Gene V3.1 an excellent genealogy database program. Limited to 600 persons/300 marriages. requires 1MB RAM £3.00.

FF427 - Chemesthetics V2.0 draws molecules using the calotte model. Very comprehensive it includes a picture save option. £3.00.

FF429 - Scrub will detect if a drive has a disk cleaner in it then spin for 30 seconds while moving the heads around. £3.00.

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FF434 - Typing Tutor a simple typing tutor program which measures your typing speed and adjusts the level of difficulty accordingly. £3.00.

AMP1 - Home Business Pack : UEdit the excellent wordprocessor and spell checker, Visicalc the spreadsheet, RIM and JBase two brilliant databases only £8.50!

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AMP4 - Starter Utility Pack: This pack was compiled with the new Amiga user in minD. The pack includes: File compressors used on the Amiga - ARC, LHARC, Zoo and Power Packer. DirWork the friendly enviroment that allows many of the CLI commands to be executed at the click of your mouse. Also a virus checker and destroyer, an icon editor, a sector editor, a communications program for modem users and lots more, PLUS the word processor UEdit and the Database JBase! Only £8.50!

FF366 - PrintStudio V1.2 this program allows you to print any text file in many styles, print any part of or a whole picture, screen or window, also control your printer and much more. £3.00.

TB8 - BioRhythms the life cycles program. £3.00.

TB9 - FastMem allows you to toggle ON/OFF your expansion RAM. Also FuncLey allows you to assign text or commands to F1 to F10. £3.00.

TB16 - CLI Wizard V1.2 is the excellent mouse operated CLI replacement makes using the CLI a doddle! £3.00.

TB17 - Database Wizard V1.1 allows you to store upto 400 names and addresses. £3.00.

TB30 - MyMenu create you own menu on Work Bench allows you to have all your favorite programs at the click of your mouse. Also Icon Meister the excellent icon editor. £3.00.

FF342 - IE the icon editor that allows you to create icons upto 640 x 200 pixels! £3.00.

PD279 - ESA Utility Disk 1. This disk contains 3 dozen excellent utilities! All menu driven it includes: Amiga Tool, BootGenerator, Coder Board, DCopyII, Font Ripper, Menu Maker, Power Utility, Power Packer, PPMore V1.2, Save IFF, Scanner V2.0, Scroll Maker 2, plus virus checkers and destroyers and loads more! £3.00!

PD280 - The Champions Total Utils 1. This compilation contains Boot Generator, Boot Girl, BootMaker, BootWriter, Character Editor, Demo Maker, DiskX, Flash Ripper, Font Ripper, Guru Maker, Guru Master, Icon Master, Make A Menu, NoiseTracker, Graphics Searcher, SetKey, SlideSHow Maker, Time Set, Tristar Virus Killer ToED. £3.00!

FF378 - MACH II V3.0 this brilliant 'all in one' utility features your help screen, mouse accelerator, PopCLI, Screen Blanker, Mouse OFF, Sun Mouse (activates a window by placing mouse it), Click To Front (bring window to front by clicking on it), Cycle (move a window or screen to back with left then right mouse button click, Window and Screen Shuffler, CLock, Alarm, Beeper and loads more. Excellent! £3.00!

PD300 - The Master Virus Killer the latest version is always in stock this utility recognises 124 viri! A full list is available, excellent and very easy to use and very comprehensive. £3.00!

PD62 - The Public Dominator Anti Virus disk contains Virus X V4.01, VCheck V1.2 (for memory), VCheck V1.9 (for disk drives), Zero Virus V1.3 the fully integrated virus detector and killer. Also Boot Block Champion the utility and information on boot blocks. £3.00.

TB31 - ShoWiz show any picture with or with out your own controlling script, show 1 picture, or even 1 or more disk fulls, also play a music file and show in text in any colour! Perfect for presentations. £3.00.

PD93 - ARP V1.3 the Amiga DOS Replacement Project. £3.00.

FF229 - JazzBench v0.8 is a multitasking WorkBench replacement. £3.00.

FF246 - NoClick V3.6 this program stops your disk drives clicking when there is no disk in the drive. £3.00.

FF251 - DiskSalv V1.42 more powerful than Disk Doctor this utility will attempt to salvage data from bad disks. £3.00.

PD304 - MessyDOS handles MSDOS formatted disks (this includes Atari ST) exactly the same way that native Amiga disks are used. £3.00.

FF243 - PassWord V1.21 you specify the password for your system security. Also Pcopy V2.0 the excellent disk copier. £3.00.

FF279 - MRBackup V3.3 the hard disk backup utility. £3.00.

FF300 - TitleGen V1.6 excellent 'script language' that creates scrolling text in any font and colour upto 500 lines long! Perfect for video titles. £3.00.

FF213 - ICONS! This disk contains 300 8 colour icons! £3.00.

AM22 - Printer Driver Generator this program will create a driver for your printer. £3.00.

APDC18 - Floppy Disk Utilities: QuickCopy, Disk Mapper, Disk Salvage, Viurus Check, Directory Master, Amiga Monitor, Calculator and more. £3.00.

FONTS

None of the following font disks repeat any fonts.

The following 4 font packs each contain 6 disks with over 60 multi coloured fonts in each pack. Each pack is £15.00 and is fully comaptible with all Amiga IFF font programs. A full listing of each pack is available on our disk based catalogue.

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PSFF3 - Fletcher Font Pack 3.
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The following 2 font packs each contain 6 disks with over 120 single coloured fonts in each pack. Each pack is £15.00 and is fully comaptible with all Amiga IFF font programs. A full listing of each pack is available on our disk based catalogue.

PSFFA - Fletcher Font Pack A.
PSFFB - Fletcher Font Pack B.
PD53-56 - Public Dominator font pack contains 50 single coloured fonts on 4 disks for £10.00 compatible with all IFF font using programs.
Also available as individual disks for £3.00 each.

MUSIC

M15 - The Accompanist MIDI 16 voice sequencer by Henry Cosh. £3.00.

M18/M19/M20 - Soundtracker player and Soundtracker modules converted from the Amiga. Also documentation and some source code in 68000 and GFA basic on Soundtracker formats and different frequencies. £9.00.

M21 - Noizetracker. £3.00.

M22/M23 - Quartet samples lots of samples for use with Quartet. £6.00.

PROGRAMMING

L1 - 68000 Assembler, Xlisp, STLogo, Tiny basic. £3.00.
L2 - STBasic. £3.00.
L5 - PD C v2.0 C compiler. £3.00.
L6 - Toy Prolog. £3.00.
L7 - Xlisp v1.7. £3.00.
L8 - Forth from Bradley Firmware. £3.00.
L13/L14 - Modula-2 development system v1.0. £6.00.
L15 - Sozobon C compiler. £3.00.

GRAPHICS

AMP3 Graphics Pack 1. Mcad the excellent high resolution CAD package, ROT 3D drawing program, VDraw the painting program, RayTracer for creating amazing ray traced pictures. Also a disk full of graphic utilities: Clip It! allows you to clip any part of the screen and save to disk as a picture file, FilterPix allows manipulation of pictures with enhancers, edge definition, colour and size shifters, C64 picture converters, picture showers, screen and window to disk savers, icon editors and icon converters (brush to icon, IFF to icon etc.). £8.50.

AMP21 Graphics Pack 2. The Mse Mandelbrot explorer includes some excellent examples, a picture converter to convert Atari ST DEGAS and NEO to Amiga IFF, Apple MAC view and convert to IFF, PopColours pops up a colour palette, picture viewers: DPSlide, SeeILBM, ShowHAM and IFFEXEC which allows a picture to be shown simply by double clicking on it. Also NewGetImage and Brush2C which convert IFF and Brush picture files to C code for inclusion in programs. Also for weird spaced out visual effects try PolyGon, VIZ and KAL all these allow you and your mouse to create amazing weird screen displays; PolyGon even allows colour cycle! A HAM scribble screen. DBW Render the raytracing package. Also in this pack is FBM. FBM is an image manipulation library. £8.50.

PD502 - C Light the Ray Tracing Program. £3.00.

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- D007 X-WING ANIM (1 Meg) Another good one
- D011 ANTHROX VIOLENCE DEMO, Funny & original demo
- D012 REBELS MEGADEMO. Get this disk
- D014 SPACE ACE DEMO (1 Meg) Cool!
- D015 UGLY MUG GOES FOR A SPIN.
- D016 X-WING 2 (1 Meg) Another good anim
- D017 GHOST POOL (1 Meg) Check it out
- D023 STEALTHY 2 ANIM. Amazing anim
- D024 A.L.F. DEMO. Do the ALF rap
- D028 BUDBRAIN MEGADEMO (2 Disks) Totally Fab, get it
- D031 RAIDER OF THE LOST ARK ANIM (1 Meg) Brill
- D032 JUGGETTE ANIM (1 Meg) The Juggler's wife
- D033 OBSCENE 2. More obscene phone calls
- D034 PORSCHE ANIM (1 Meg) Fantastic
- D036 CAR CHASE (1 Meg) Amazing, get it
- D037 GYMNAST ANIM (1 Meg) Very good
- D039 FRACTAL FLIGHT (1 Meg) Wow!!!!!!!!!!!!
- D041 AGATRON SLIDES 10. Amazing artwork
- D045 ARSE WIPE ADVERT. He, he, he, very funny
- D046 GARFIELD SLIDESHOW. Meooww, good
- D047 RAF MEGADEMO (2 Disks) Amazing Ghostbusters part
- D048 END OF THE CENTURY MEGADEMO 2. A cool disk
- D050 THE X-MAS SONG (2 Disks) (XXX) Hilarious
- D052 WE WANT SOME PUSSY RAP (XXX) No comment, he, he
- D054 FILLET THE FISH. Puggs in space style demo
- D056 SCOOPEX MENTAL HANGOVER. Get this now!!!
- D059 RED SECTOR MEGADEMO (2 Disks) Get this as well!!!!
- D060 EDDIE MURPHEY DELIRIOUS (2 Disks) (XXX) Funny!
- D061 EDDIE MURPHEY DELIRIOUS 2 (2 Disks) (XXX) Funny!
- D062 RED SECTOR CEBIT 90. Get this one!
- D064 PUGGS IN SPACE. Very good
- D067 LOTUS & UNICYCLE (1 Meg) Now a classic anim
- D069 NIGHTBREED SLIDESHOW. TV quality pictures
- D070 SAFE SEX DEMO. Funny, but harmless
- D074 DREAM PACK. Includes the amazing PO1 PO1 demo
- D076 OBSCENE 3. Even more dirty phone calls
- D077 GOOD MORNING VIETNAM. Yippee
- D082 MONTY PYTHON " NUDGE NUDGE" (2 Disks/2 drives req.)
- D086 HARD CRACK GRAPHICS. Nice music & piccys
- D088 SILENTS MEGADEMO. Brill loader, just get it
- D092 GOLDFIRE MEGADEMO. Get this or else!!!!!!
- D095 OUTSIDERS ACID DEMO. One for acid freeks
- D106 SCIENCE 451 MEGADEMO. Very good
- D109 NO BRAIN, NO PAIN (2 Disks) Good
- D111 CRUSADERS BACTERIA. Brill music
- D118 CRIONICS MEGADEMO. Includes famous Maddonna demo
- D127 CHUBBY BROWN (XXX) Funny disk
- D129 INTUITION MEGADEMO. Good stuff
- D134 SLIPSTREAM – GARFIELD DEMO. Check it out
- D136 PUNK CROC CREW MEGADEMO. Includes NEIGHBOURS
- D138 BRUCE LEE SLIDESHOW (3 Disks) Fans only
- D145 FAST CARS SLIDESHOW. For fans only
- D146 MAGICIAN & RUNNER ANIM (1 Meg) Good stuff
- D147 NEIGHBOURS SLIDESHOW. With captions added. Funny
- D148 VIZ CALENDAR SLIDESHOW. Good
- D150 WINDSURFER ANIMS (1 Meg) (2 Disks) Very cool
- D151 ROBOCOP 2 SLIDESHOW. For fans
- D152 KIM WILDE SLIDESHOW. For fans only
- D153 EPIC GAME DEMO (1 Meg) Brill, Fab, Amazing !!!!
- D154 TOTAL RECALL SLIDESHOW. Fans only
- D158 OPERATION VARK, OPERATION WOLF Look-a-Like
- D160 EXODUS REAL 3D. Amazing 3D pictures
- D163 PROBE SEQUENCE (1 Meg) Been on tele
- D167 KNIGHT ANIM. Good stuff
- D168 HORIZON MEGADEMO. Good
- D169 BUDBRAIN MEGADEMO 2. Get it now!!!!!
- D174 NEWTEK 1 (2 Disks/2 drives req.) Fantastic
- D176 JASPER CARROT. Fans only
- D177 NEWTEK 3 (2 Disks/2 drives req.) Yahoo!
- D178 OBSCENE 1. The first of the series
- D181 NASA PICS. Good slideshow
- D184 DRAGONS LAIR 2 (1 Meg) Check it out
- D185 WRATH OF THE DEMON DEMO (1 Meg)
- D186 TEAM SUZUKI DEMO. Rolling demo of game
- D187 BATMAN THE MOVIE (1 Meg) Good funny anim
- D188 DEMONIAK DEMO (1 Meg) Good stuff
- D189 SIMPLE STUFF. Good demos
- D190 IRAQI DEMO (1 Meg) Very, very good
- D191 COOL CARS. Amazing pictures
- D194 PROLOGIC PARTY TIME. Sit back & be amazed
- D205 WALKER 1 (2 Disks/2 Meg) The big one
- D206 WALKER 2 (2 Disks/2 Meg) Another big one
- D207 EQUAMANIA 2 & DRUNKEN SKULLS. Good
- D209 TRON ANIM (2 Disks/1 Meg) Amazing, Brill
- D217 SLYCATH DEMOS 1. 5 cool demos
- D222 MAGNETIC FIELDS HYSTERESIS. Fantastic
- D223 HAM INVASION. Amazing pictures
- D224 ANARCHY SYSTEM VIOLATER. Mega cool
- D225 SLYCATH DEMO COMP 2. 6 brill demos
- D226 CRIONICS TOTAL DESTRUCTION. Brill
- D228 TOP GUN DEMO (2 Meg/2 Disks) Good
- D229 PHENONENA MEGA DEMO II, Brill!!
- D231 2 Disks KGB MEGA DEMO, Amazing!
- D237 SILENCE GLOBAL THRASH, Awsome
- D243 SCOPEX DEMO DISK 132, 1 Meg includes a cool Simpsons demo

GAMES

- G001 STAR TREK 3 (2 Disks) The Best
- G002 SPACE BLITZ, Cool
- G003 RETURN TO EARTH, Space trading!
- G004 ADVENTURE GAMES, Text Adventures
- G005 YELP, Arcade Game
- G006 BREAKOUT CONSTRUCTION KIT, Good
- G008 BOARD GAMES, Monopoly etc
- G019 MIXED GAMES
- G010 WHEEL OF FORTUNE, Like TV Prog
- G011 YAHZEE, Popular dice game.
- G014 BUCK ROGERS, Shoot-em-up
- G015 STAR TREK (3 Disks/2 Drives Req) Cool
- G016 TENNIS (1 Meg) Includes speech
- G017 PSEUDO COP GAME, ED209
- G019 PARANOID, Breakout game
- G020 TRAIN CONSTRUCTION SET, Good fun

MUSIC

- M002 ROGER RAMJET RAP. Long & good
- M006 HE SWEARS A LITTLE BIT (2 Disks/2 drives req.)
- M011 D-MOB MUSIC 2. Cool music
- M012 D-MOB MUSIC 4 (2 Disks) Good music
- M013 ENEMIES MUSIC 3. Some great music
- M014 REBELS MEGABLAST. Robotic style tunes
- M020 NEWTONS MUSIC DISK. Great equalizers
- M021 KYLIE MINOGUE " MADE IN HEAVEN" (2 Disks)
- M022 AMIGA CHART MIX 3. Good music
- M023 TITAN TRAX 1. Great, beaty music
- M024 CRUSADERS FREEKED OUT. Well ard disk
- M025 H.C.C. JARRE SHOW. Get it
- M026 AMIGA CHART MIX 5. More brill music
- M028 COMIC STRIP. Nice silly songs
- M029 D-MOB MUSIC 3. Good stuff
- M030 VISIT TOXTETH. Take a trip to Toxteth
- M031 POPEYE MEETS THE BEACHBOYS. Funny
- M033 DEREK & CLIVE (2 Disks/XXX) Funny
- M034 TOTAL REMIX (2 Disks) Very funny
- M035 DIGITAL CONCERT 2. Get it now!
- M036 DIGITAL CONCERT 3. Get this as well!
- M037 DIGITAL CONCERT 4. And this!
- M038 DIGITAL CONCERT 5. As above
- M039 DIGITAL CONCERT 6. As above, as above
- M040 RAF MEGA MIX 1. Coooo1!!!
- M042 BAT DANCE REMIX. Nice
- M045 MIAMI VICE REMIX. Good
- M048 SOUND ATAX. Plenty of good tunes
- M049 BEN ELTON. Very funny
- M051 POWER REMIX. Nice disk
- M054 SOUND OF SILENTS. Good stuff
- M055 GET UP. Cool long sample
- M057 D-MOB MUSIC 1. Good
- M061 DEPECHE MODE MUSIC. Fans only
- M062 RAVE BY HACKTRICK (1 Meg) Acccidd
- M064 SOUND ATAX 2. 10 cool songs
- M070 SCOOPEX'S BEAST MUSIC. Brill
- M072 H.C.C. MUSIC DISK 1. Very good
- M075 100 GREATEST C-64 TUNES. Brill
- M077 BOMB THE BASS. Well ard
- M081 FLASH (2 Disks) by Queen
- M091 4-MAT MUSIC. Cool music by 4 MAT
- M102 DEBBIE GIBSON (2 Disks) Electric Youth Sample
- M105 ALIEN NATION. Aural Ectasy. Good beaty stuff.
- M112 JARRE REVOLUTIONS. Cool Jarre Music.
- M114 BETTY BOO! Just doing the do.
- M116 LAND OF CONFUSION by Genesis
- M120 HEAR THE DRUMMER, Get wicked
- M121 BAND AID 2 (2 Disks) Long sample
- M125 RAF Megamix 2 (2 Disks) Mega Cool
- M126 AMIGA CHARTS 2. Nice music mix.
- M127 AMIGA CHARTS 6. Very Good
- M134 MIAMI VICE THEME (4 Disks). Very long
- M136 LAUREL & HARDY (2 Disks/2 Drives). Fans only
- M138 SIMPSONS - DO THE BART MAN (3 Disks) Cool
- M140 MADONNA, Justify my Love. Good
- M141 DIRTY DANCING. Nice music sample
- M142 AMAZING TUNES 2 (1 Meg/3 Disks) Brill, Get it.
- M143 TWIN PEAKS THEME, Fans only
- M147 JARRE LIVE. 11 cool songs
- M154 DON'T TOUCH IT. Funny song
- M156 POWER OF LOVE (2 Disks) Long sample
- M157 808 STATE REMIX, Good weird music
- M158 STUDIO MUSIC 1, 15 cool tunes
- M159 STUDIO MUSIC 2, 12 cool tunes
- M160 STUDIO MUSIC 3, 11 cool tunes
- M161 STUDIO MUSIC 4, 12 cool tunes
- M162 STUDIO MUSIC 5, 12 cool tunes
- M163 STUDIO MUSIC 6, 17, yes, 17 cool tunes
- M164 STUDIO MUSIC 7, 15 cool tunes
- M165 STUDIO MUSIC 8, 9 cool tunes
- M166 STUDIO MUSIC 9, 15 cool tunes
- M167 STUDIO MUSIC 10, 11 cool tunes
- M168 STUDIO MUSIC 11, 14 cool tunes
- M169 STUDIO MUSIC 12, 16 cool tunes
- M170 STUDIO MUSIC 13, 13 cool tunes
- M171 H.C.C. MUSIC Disk 2, Includes ED THE DUCK
- M173 CRUSADERS DOES GENESIS, Fantastic
- M174 SILENTS - Blues House (2 Disks) Get this Now,
- M176 SPACED OUT 2, Wicked

UTILITIES

- U002 U-EDIT WORD PROCESSOR - Good stuff
- U004 SOUNDTRACKER COLLECTION (3 Disks) Brill
- U006 COPY & CRACK TOOLS. Handy
- U008 DARKSTAR UTILS 6, Boots, Copiers & Packers
- U009 DARKSTAR UTILS 5. Rippers, Virus Utils & More
- U010 GHOSTWRITER & RAINBOW WRITER, Make your own demos
- U012 MEGA UTILS, 175 Utils & some Docs
- U014 FLEXY BASE, Powerful Database
- U015 GRAPHICS UTILS, Sprite editors & Docs
- U016 C MANUAL (3 Disks) Complete programming language
- U020 DOPE INTRO MAKER, Good stuff
- U021 ULTIMATE ICON DISK, Lots & Lots of Icons & Editors
- U023 WARRIORS CRUNCHER DISK, Loads of packers
- U024 SID CLI UTILITY, Very Very Good
- U025 M CAD, Computer Aided Design
- U029 BACK UP UTILITY, Copier
- U030 GAME MUSIC CREATOR, Soundtracker look-a-like
- U031 SPEEDBENCH, Faster loading Workbench
- U032 FONTS VOL2, Loads of good fonts
- U033 CLIP ART FONTS, Use with your art packages
- U038 ALPHA FLIGHT DEMO MAKER, Needs CLI knowledge
- U039 AMIBASE 3.76, Cool database
- U040 FONTS VOL1, Load of fonts
- U042 FONTS DISK, Even more cool fonts
- U043 R.I.M. DATABASE, Good
- U044 MOBED, MOveable OBject EDitor, Cool
- U047 JAZZBENCH, Better workbench
- U048 VC SPREADSHEET, Good
- U059 CLIP ART, Use with art packages
- U062 ULTIMATE COPY & VIRUS KILLER DISK, the best
- U063 CLIP ART, Animals, carton, people & more
- U064 CLIP ART, Transport, people, buildings & more
- U065 PAGESETTER CLIP ART, B&W art, works with art packs
- U066 C-LIGHT (1 Meg), Ray tracing package
- U069 NORTH 'C' 1.3 (2 Disks), The latest version
- U070 PASCAL, PCQ 1.1
- U071 METALION UTILS, Font designers & more
- U072 RIPPERS DISK, The best rippers disk around
- U073 SAMPLE EDITOR, Good
- U074 SOUNDTRACKER, 8 Channels, Wow!
- U075 TECHNO HIP HOP SAMPLES, Use with Soundtracker
- U076 MASTER VIRUS KILLER 2.1, The latest version
- U080 ST03, Instruments for Soundtracker
- U081 ST04, More Instruments for Soundtracker
- U082 ST06, Even more Instruments for Soundtracker

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AMC10

ROCK LOBSTER

The Amiga Computing team chill out...

Chart attack



Can you do better than this? Try your luck next month... exclusively in AC

How d'you you fancy a shot at redesigning one of the most popular music shows in Britain?

Next month *Amiga Computing* and none other than The ITV Chart Show are offering an exclusive opportunity for you to do just that! If you fancy designing graphics that will be admired by over two and a half million viewers every week, the November issue of *AC* is an absolute must

Take a peek at The Chart Show over the next few weeks to get a feel for how the graphics look and then get ready to totally redesign them.

There will be full details in next month's *Amiga Computing* so reserve yourself a copy now.

PD winner – at last!

Hearty congratulations to Richard Town from Elland, the lucky winner



of our massive "Win a PD library" competition from way back in June.

Those awfully nice 17-Bit people will be in touch soon to arrange delivery of their entire library, so clear some space in your cupboards!

CITA winners

Space is short this month, and we haven't got room to reprint all the old CITA photos. So if you have your back issues handy it will all make sense, if not... you're kinda stuck

The winner of CITA 38 was Fiona Clarridge from Oxford with "The other Lemmings will be along any minute".

CITA 39 was snapped up by Martin Grimes from Newcastle who identified Gazza and came up with the interesting caption of "How much will ya gimme to lift this up?".

Prizes will be in the post any month now. Watch out for the next Rock Lobster where we reveal the winner of CITA 40.



Also in next month's Amiga Computing...

November is going to be our biggest and best ever issue of *AC*, but what's it all about?

In a word – videographics. What are they? How do you design them and what is the best way to end up with a finished tape? We have loads of beginners' guides, hardware reviews and software roundups, not to mention a few tricks of the trade.

Also in November, for those with expansion in mind, a comprehensive look at hard disks, monitors and printers.

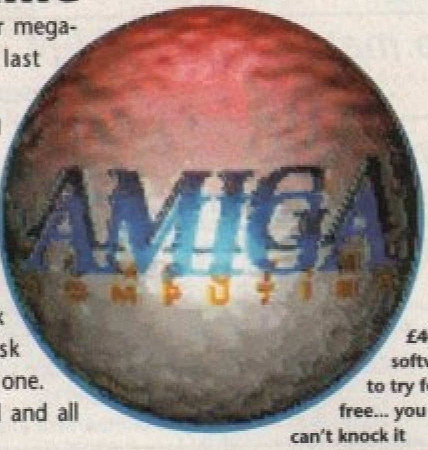
Add to all this a look at viruses and some of the sexiest hardware around and you have an issue of *Amiga Computing* that your newsagent won't be able to get enough of. Reserve your copy now!

Real 3D rename

If you are having problems with our mega-generous Real-3D giveaway from last month, then read on.

Because of a teeny hiccup during the compilation of the disk, it has ended up on our cover with the wrong name.

Any readers following the Real 3D tutorial in the magazine will have been prompted to insert a disk called REAL. You don't have a disk called REAL yet, but it's easy to get one. Simply rename the disk we supplied and all will be well with the world.



£400 of software to try for free... you really can't knock it

Lost winner



The AC office before we moved. Are you surprised that a winner went missing

Have you won an *Amiga Computing* competition and not received your prize yet?

During our office move – all of a painful 100 yards – we managed to "file" some correspondence so carefully that it hasn't turned up since. So, if you are still waiting, put the lawyers on hold and get on the phone or write in.

Magic Storybook

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Vidi ... No 1 in UK & Europe (Leading the way forward)



Amiga Computing: The best Amiga digitiser has had the technicolour treatment. Vidi must be one of the most exciting peripherals you can buy for your Amiga.

Micro Mart: When I first saw Vidi "in the flesh" as it were, at the CES show last September it looked to be the answer to a frustrated Digi View owner's dreams – in fact to see pictures appearing on screen without the customary two minues wait seemed almost too good to be true. I have consistently produced more good quality pictures in the short time I have had Vidi than I ever did with Digiview.

Zero: Now under normal circumstances cheap usually means poor quality but this is not the case with Rombo. Why? cos Vidi-Amiga is the best digitiser for under £500 and I've tried them all.

Amiga Format: Where quality is concerned, Vidi produces some of the best results I've seen on any digitiser at any price.

Amiga User International: The latest addition to the Rombokit is called Vidi-RGB and brings this already impressive package to the realms of totally amazing. CONCLUSION: Who will find Vidi-Amiga useful? The answer to this is almost anyone with a video recorder or camera and a passing interest in graphics.

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